## SEQUENCE LISTING

<110> O'Brien, Timothy

 $\!<\!120\!>$  Repeat Sequences of the CA125 Gene and Their Use for Diagnostic and Therapeutic Interventions

<130> 40715-258841

<150> US 60/284,175

<151> 2001-04-17

<160> 306

<170> PatentIn version 3.0

<210> 1

<211> 13

<212> PRT

<213> Homo sapiens

<400> 1

Gln His Pro Gly Ser Arg Lys Phe Lys Thr Thr Glu Gly 1  $\,$ 

<210> 2

<211> 11

<212> PRT

<213> Homo sapiens

<400> 2

Phe Leu Thr Val Glu Arg Val Leu Gln Gly Leu

```
10
<210> 3
<211> 8
<212> PRT
<213> Homo sapiens
<400> 3
Asp Thr Tyr Val Gly Pro Leu Tyr
<210> 4
<211> 8
<212> PRT
<213> Homo sapiens
<400> 4
Asp Gly Ala Ala Asn Gly Val Asp
<210>
      5
<211> 240
<212> DNA
<213> Homo sapiens
<220>
<221> CDS
<222> (1)..(240)
<400> 5
egt ega eet gge tet aga aag tit aac ace aeg gag aga gte ett eag
                                                                     48
Arg Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln
ggt ctg ctc agg cct gtg ttc aag aac acc agt gtt ggc cct ctg tac
                                                                     96
Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr
           20
                               25
```

<223> Synthetic Primer

tot ggc tgc aga ctg acc ttg ctc agg ccc aag aag gat ggg gca gcc 144 Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala 40 acc aaa gtg gat goc atc tge acc tae ege cot gat coc aaa age cot 192 Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro gga ctg gac aga gag cag cta tac tgg gag ctg agc cag ggt gat gca 240 Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Gly Asp Ala 70 <210> 6 <211> 80 <212> PRT <213> Homo sapiens <400> 6 Arg Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr 20 Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro 50 Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Gly Asp Ala <210> <211> <212> DNA <213> Artificial <220>

```
<400> 7
                                                                    20
ggagagggtt ctgcagggtc
<210> 8
<211> 6
<212> PRT
<213> Artificial
<220>
<223> Synthetic Primer
<400> 8
Glu Arg Val Leu Gln Gly
<210> 9
<211> 20
<212> DNA
<213> Artificial
<220>
<223> Synthetic Primer
<400> 9
gtgaatggta tcaggagagg
                                                                    20
<210> 10
<211> 6
<212> PRT
<213> Artificial
<220>
<223> Synthetic Primer
<400> 10
Pro Leu Leu Ile Pro Phe
1 5
```

<210> 11

<211> 131

<212> PRT

<213> Homo sapiens

<400> 11

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu  $20 \hspace{1cm} 25 \hspace{1cm} 30 \hspace{1cm}$ 

Lys Asp Gly Thr Ala Thr Gly Val Asp Ala Ile Cys Thr His His Pro  $35 \hspace{1cm} 40 \hspace{1cm} 45$ 

Asp Pro Lys Ser Pro Arg Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 60

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ala Leu Asp 65 70 75 80

Asn Asp Ser Leu Phe Val Asn Gly Phe Thr His Arg Ser Ser Val Ser 85 90 95

Thr Pro Ala Ser Ile Phe Gly Pro Ser Ala Ala Ser Pro Leu Leu Ile 115 120 125

Pro Phe Thr

<210> 12

<211> 130

<212> PRT

<213> Homo sapiens

<400> 12

Glu Arg Val Leu Gin Gly Leu Leu Met Pro Leu Phe Lys Asn Thr Ser  $1 \\ 0 \\ 15$ 

Val Ser Ser Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Asp Gly Ala Ala Thr Arg Ala Asp Ala Val Cys Thr His Arg Pro

130

40 Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe 130 <210> 13 <211> 132 <212> PRT <213> Homo sapiens <400> 13 Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Ile Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Ile His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu 115 120 Leu Ile Pro Phe

```
<210> 14
```

<211> 130

<212> PRT

<213> Homo sapiens

<400> 14

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser 1  $\phantom{\bigg|}$  5  $\phantom{\bigg|}$  10  $\phantom{\bigg|}$  15

Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser His Arg Leu  $35 \hspace{1.5cm} 40 \hspace{1.5cm} 45$ 

Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp 65 70 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala 85 90 95

Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly 100  $$105\$ 

Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala Val Pro Leu Leu Ile 115 120 125

Pro Phe 130

<210> 15

<211> 130

<212> PRT

<213> Homo sapiens

<400> 15

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Leu Phe Lys Asn Ser Ser  $1 \hspace{1.5cm} 10 \hspace{1.5cm} 15$ 

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Ile Ser Leu Arg Ser Glu 20 25 30

Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His His Leu  $35 \hspace{1cm} 40 \hspace{1cm} 45$ 

Asn Pro Gln Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu 50 60

Ser Gln Met Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp 65 70 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu 85 90 95

Thr Thr Ser Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly 100 105 110

Thr Pro Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Phe Leu Ile 115 120 125

Pro Phe 130

<210> 16

<211> 130

<212> PRT

<213> Homo sapiens

<400> 16

Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe Lys Ser Thr Ser  $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$ 

Ala Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu  $35 \hspace{1.5cm} 40 \hspace{1.5cm} 45$ 

Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp 65  $\phantom{000}70\phantom{000}75\phantom{000}75\phantom{0000}80\phantom{0000}$ 

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly 100 105 110

Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Ile 115 120 125

Pro Phe 130

```
<210> 17
<211> 130
<212> PRT
<213> Homo sapiens
<400> 17
Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu
Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Thr Leu Asp
Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro
Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly
Thr Pro Ala Ser Leu Pro Gly His Ile Val Pro Gly Pro Leu Leu Ile
Pro Phe
   130
<210> 18
<211> 131
<212> PRT
<213> Homo sapiens
<400> 18
Glu Arg Val Leu Gln Gly Leu Leu Thr Pro Leu Phe Lys Asn Thr Ser
Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
```

Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val 35 40 45 Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp 65 70 75 80

Arg Asp Ser Leu Tyr Val Asp Gly Phe Asn Pro Trp Ser Ser Val Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly 100  $$105\$ 

Thr Pro Ser Pro Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile 115 120 125

Pro Phe Thr 130

<210> 19

<211> 131

<212> PRT

<213> Homo sapiens

<400> 19

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser 1  $\phantom{-}5\phantom{+}10\phantom{+}15\phantom{+}15\phantom{+}10\phantom{+}15\phantom{+}10\phantom{+}10\phantom{+}10\phantom{+}15\phantom{+}10\phantom{+}1$ 

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu  $20 \hspace{1cm} 25 \hspace{1cm} 30 \hspace{1cm}$ 

Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu  $35 \hspace{1.5cm} 40 \hspace{1.5cm} 45$ 

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp  $65 \phantom{000}70\phantom{000}75\phantom{000}$ 

Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro 85 90 95

Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu  $100 \ 105 \ 110$ 

Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Val 115 120 125

Pro Phe Thr

<210> 20

<211> 130

<212> PRT

<213> Homo sapiens

<400> 20

Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser 1  $\phantom{\bigg|}$  10  $\phantom{\bigg|}$  15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu 20 25 30

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 60

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp 65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro \$85\$

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly  $100 \\ 0.05$ 

Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile 115 \$120\$

Pro Phe 130

<210> 21

<211> 131

<212> PRT

<213> Homo sapiens

<400> 21

Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser  $1 \hspace{1.5cm} 1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$ 

Ile Gly Pro Leu Tyr Ser Ser Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Asp Lys Ala Ala Thr Arg Val Asp Ala Ile Cys Thr His His Pro  $_{\mbox{\footnotesize 35}}$ 

Asp Pro Gln Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu  $50 \hspace{1.5cm} 60 \hspace{1.5cm}$ 

Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp 65 70 75 80

Arg Asp Ser Leu Tyr Val Asp Gly Phe Thr His Trp Ser Pro Ile Pro  $85 \hspace{1cm} 90 \hspace{1cm} 95$ 

Thr Thr Ser Thr Pro Gly Thr Ser Ile Val Asn Leu Gly Thr Ser Gly  $100 \\ 05 \\ 105$ 

Ile Pro Pro Ser Leu Pro Glu Thr Thr Ala Thr Gly Pro Leu Leu Ile 115 120 125

Pro Phe Thr 130

<210> 22

<211> 282

<212> PRT

<213> Homo sapiens

<400> 22

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser 1  $\phantom{\bigg|}$  5

Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu  $20 \hspace{1cm} 25 \hspace{1cm} 30 \hspace{1cm}$ 

Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro \$35\$

Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu 50 55 60

Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp  $65 \phantom{000}70\phantom{000}75$ 

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly

Thr Pro Ser Ser Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp 130 135 140

Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu

145 150 155 160 Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala 180 Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu 230 Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser 265 Phe Pro Gly His Thr Glu Pro Gly Pro Leu <210> 23 <211> 286 <212> PRT <213> Homo sapiens <400> 23 Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu 50 Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu 85 Thr Thr Ser Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly 100 105 110

Thr Pro Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Ile 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn 130 \$135\$

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu 145 \$150\$

Gln Gly Leu Leu Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu 165 170 175

Ala Thr Arg Val Asp Ala Val Cys Thr Gln Arg Pro Asp Pro Lys Ser 195 200 205

Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr 210 215

His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Leu 225  $\phantom{\bigg|}230\phantom{\bigg|}230\phantom{\bigg|}235\phantom{\bigg|}$ 

Tyr Val Asn Gly Leu Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr \$245\$

Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser 260 265 270

Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe 275 280 285

<210> 24

<211> 250

<212> PRT

<213> Homo sapiens

<400> 24

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser  $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$ 

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu 35 40 45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp  $65 \phantom{000}75\phantom{000}$  70  $\phantom{0000}75\phantom{000}$ 

Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Thr Ser Val Pro  $85 \hspace{0.5cm} 90 \hspace{0.5cm} 95$ 

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly
100 105 110

Thr Pro Phe Ser Leu Pro Ser Pro Ala Thr Ala Gly Pro Leu Leu Val

Leu Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys Tyr Glu Glu Asp 130 \$130\$

Met His Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 \$150\$

Gln Thr Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu 165  $$170\$ 

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Ser Glu Lys Asp Gly Ala 180 185 190

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser 195 200 205

Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 220

Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 225 230 230 235

Tyr Val Asn Gly Phe Thr His Trp Ile Pro 245 250

<210> 25

<211> 286

<212> PRT

<213> Homo sapiens

<400> 25

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 1  $\phantom{\bigg|}$  5  $\phantom{\bigg|}$  10  $\phantom{\bigg|}$  15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu  $20 \hspace{1cm} 25 \hspace{1cm} 30 \hspace{1cm}$ 

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu  $35 \ \ \, 40 \ \ \, 45$ 

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp

65 70 Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu 1.00 105 Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile Pro Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Leu Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Ile Ser Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His His Leu Asn Pro Gln Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu Ser Gln Met Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu Thr Thr Ser Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Ile Pro Phe <210> 26 <211> 286 <212> PRT <213> Homo sapiens <400> 26 Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu 35 40 45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu  $50 \hspace{1cm} 55 \hspace{1cm} 60 \hspace{1cm}$ 

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp 65 70 75 80

Arg Gly Ser Leu Tyr Val Asn Gly Phe Ser Arg Gln Ser Ser Met Thr 85 90 95

Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg 100 105 110

Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn 130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu 145 \$150\$

Gln Gly Leu Leu Asn Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Lys Pro Glu Lys Asp Gly Ala 180 185 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 220

His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala Pro Thr Ser Thr

Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser 260 265 270

Leu Pro Ser Pro Thr Thr Ala Val Pro Leu Leu Ile Pro Phe 275 280 285

<210> 27

<211> 286

<212> PRT

<213> Homo sapiens

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Phe Gly

Thr Pro Ala Ser Leu His Gly His Thr Ala Pro Gly Pro Val Leu Val

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp

Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu

Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr

215 Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu

235

Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr

Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser 265

Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile Pro Phe 275 280 285

<210> 28

260

225

<211> 286

<212> PRT

<213> Homo sapiens

<400> 28

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 1  $$\rm 10$$ 

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu  $35 \hspace{1cm} 40 \hspace{1cm} 45$ 

Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu  $50 \hspace{1.5cm} 60$ 

Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp 65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro 85 90 95

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly 100 105 110

Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Val 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp 130 135 140

Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala 180 185 190

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr 210 215 220

Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu 225  $\phantom{\bigg|}230\phantom{\bigg|}230\phantom{\bigg|}235\phantom{\bigg|}$ 

Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr 245 250 255

Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser  $260 \hspace{1.5cm} 265 \hspace{1.5cm} 265 \hspace{1.5cm} 270 \hspace{1.5cm}$ 

Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile Pro Phe 275 280 285

<210> 29

<211> 281

<212> PRT

<213> Homo sapiens

<400> 29

Glu Arg Val Leu Gln Gly Leu Leu Thr Pro Leu Phe Lys Asn Thr Ser  $1 \ 5 \ 10 \ 15$ 

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu  $20 \\ 25 \\ 30$ 

Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val \$35\$ 40 45

Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp 65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser Ser Val Pro 85  $\phantom{-}90\phantom{0}$  95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly 100 105 110

Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile

The Pro Ser Ser Leu Pro Gly His The Ala Pro Val Pro Leu Leu II6 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn 130 135 140

Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu 165 \$170\$

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala 180 185 190

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser 195 200 205

Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 225 230 230 Tyr Val Asn Gly Phe Thr His Trp Ile Pro Val Pro Thr Ser Ser Thr 245  $\phantom{0}$  250  $\phantom{0}$  255

Pro Ser Pro Thr Thr Ala Gly Pro Leu 275 280

<210> 30

<211> 217

<212> PRT

<213> Homo sapiens

<400> 30

Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser 1 5 10 15

Ile Gly Pro Leu Tyr Ser Ser Cys Arg Leu Thr Leu Leu Arg Pro Glu  $20 \hspace{1cm} 25 \hspace{1cm} 30 \hspace{1cm}$ 

Lys Asp Lys Ala Ala Thr Arg Val Asp Ala Ile Cys Thr His His Pro  $35 \\ 0 \\ 45$ 

Asp Pro Gln Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu 50 60

Arg Asp Ser Leu Tyr Val Asp Gly Phe Thr His Trp Ser Pro Ile Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Ile Val Asn Leu Gly Thr Ser Gly 100 105 110

Ile Pro Pro Ser Leu Pro Glu Thr Thr Ala Thr Gly Pro Leu Leu Ile 115 120 125

Pro Phe Thr Pro Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp 130 135 140

Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala 180 185 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg

COCKETTO CONTR

Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro  $35 \ \ \, 40 \ \ \, 45$ 

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys

Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro

Thr Thr Ser Ile Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly

Thr Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Val

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp 130  $$135\$ 

Met His Arg Pro Gly Ser Arg Lys Phe Asn Ala Thr Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala 180 185 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 215 220 His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu 225  $\phantom{\bigg|}230\phantom{\bigg|}235\phantom{\bigg|}$ 

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr 245 250 255

Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser  $260 \\ 265 \\ 270 \\$ 

Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe 275 280 285

<210> 32

<211> 288

<212> PRT

<213> Homo sapiens

<400> 32

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser 1  $\phantom{\bigg|}$  5  $\phantom{\bigg|}$  10  $\phantom{\bigg|}$  15

Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys 20 25 30

Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro 35 40 45

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp 65 70 75 80

Thr Thr Ser Ile Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly 100 105 110

Thr Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Ile 115 \$120\$

Pro Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn 130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu 145  $\phantom{\bigg|}$  150  $\phantom{\bigg|}$  150  $\phantom{\bigg|}$  155  $\phantom{\bigg|}$  160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala 180 185 190 Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser  $195 \hspace{1.5cm} 200 \hspace{1.5cm} 205$ 

Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr 245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser 260  $\phantom{-}265\phantom{0}$ 

Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu Ile Pro Phe 275 280 285

<210> 33

<211> 284

<212> PRT

<213> Homo sapiens

<400> 33

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro  $35 \hspace{1cm} 40 \hspace{1cm} 45$ 

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Cys Glu Leu 50 60

Ser Gln Leu Thr His Asp Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp 65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly

Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile 115 120 125

Pro Phe Thr Phe Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn  $130 \hspace{1.5cm} 135 \hspace{1.5cm} 140 \hspace{1.5cm}$ 

Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu

145 150 155 160 Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Glu Ala 185 Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile His Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser 265 Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile 280 <210> 34 <211> 288 <212> PRT <213> Homo sapiens <400> 34 Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Ser Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro 85 Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly

105

100

Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile 115 120 125

Pro Phe Thr Val Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn 130  $$135\$ 

Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145  $\phantom{\bigg|}$  150  $\phantom{\bigg|}$  155  $\phantom{\bigg|}$  160

Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala 180 185 190

Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr 210 215 220

Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 225  $\phantom{\bigg|}230\phantom{\bigg|}235\phantom{\bigg|}235\phantom{\bigg|}$ 

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr 245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser 260 265 270

Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu Ile Pro Phe 275 280 285

<210> 35

<211> 274

<212> PRT

<213> Homo sapiens

<400> 35

Val Gly Ser Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu  $20 \hspace{1cm} 25 \hspace{1cm} 30 \hspace{1cm}$ 

Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Val Cys Thr His Arg Pro 35 40 45

Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu 50 60

Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp 65 70 75 80

Arg His Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr 85 90 95

Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg 100 105 110

Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Val

Leu Phe Thr Ile Asn Phe Thr Ile Thr Asn Gln Arg Tyr Glu Glu Asn

Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145  $\phantom{\bigg|}$  150  $\phantom{\bigg|}$  150  $\phantom{\bigg|}$  155  $\phantom{\bigg|}$  160

Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu \$165\$ \$170\$ \$175\$

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala 180 185 190

Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 215 220

His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Gln Asp Arg Asp Ser Leu 225 230 235 240

Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser  $260 \hspace{1cm} 265 \hspace{1cm} 265 \hspace{1cm} 270 \hspace{1cm}$ 

Leu Pro

<210> 36

<211> 386

<212> PRT

<213> Homo sapiens

<400> 36

Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu  $20 \hspace{1cm} 25 \hspace{1cm} 30 \hspace{1cm}$ 

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu

35 40 Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu 105 Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Ala Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 155 Gln Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Ala Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Val Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu 310 315 Arg Pro Leu Phe Lys Asn Thr Ser Ile Gly Pro Leu Tyr Ser Ser Cys 325 330 Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Lys Ala Ala Thr Arg Val 340 345

Asp Ala Ile Cys Thr His His Pro Asp Pro Gln Ser Pro Gly Leu Asn 355 360 365

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Ile Thr 370 375 380

Glu Leu 385

---

<210> 37

<211> 438

<212> PRT

<213> Homo sapiens

<400> 37

Glu Arg Val Leu His Gly Leu Leu Thr Pro Leu Phe Lys Asn Thr Arg 1  $\phantom{\bigg|}$  5  $\phantom{\bigg|}$  10  $\phantom{\bigg|}$  15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu  $20 \hspace{1cm} 25 \hspace{1cm} 30 \hspace{1cm}$ 

Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val 35 40 45

Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp 65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser Ser Val Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly 100 105 110

Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn 130 135 140

Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 \$150\$ 150 \$155\$

Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu 165 170 175

Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly 195 200 205

Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 215 220

Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu 225 230 240

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile 245 250 255

Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser 260 265 270

Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu 275 280 285

Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu 305 310 315 320

Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys 325 330 335

Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala Ala Thr Gly Val\$340\$ 345 350

Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn Pro Gly Leu Asp  $355 \hspace{1.5cm} 360 \hspace{1.5cm} 365$ 

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Arg Gly Ile Ile 370 \$375\$

Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu Tyr Val Asn Gly 385  $\phantom{\bigg|}$  390  $\phantom{\bigg|}$  395  $\phantom{\bigg|}$  400

Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr Pro Gly Thr Ser 405 410 415

Thr Val His Leu Gly Thr Ser Glu Ile His Pro Ser Leu Pro Arg Pro 420 425 430

Ile Val Pro Gly Pro Leu 435

<210> 38

<211> 420

<212> PRT

<213> Homo sapiens

<400> 38

Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys

1				5					10					15	
Asp	Gly	Ala	Ala 20	Thr	Gly	Met	Asp	Ala 25	Val	Cys	Leu	Tyr	His 30	Pro	Asn
Pro	Lys	Arg 35	Pro	Gly	Leu	Asp	Arg 40	Glu	Gln	Leu	Tyr	Trp 45	Glu	Leu	Ser
Gln	Leu 50	Thr	His	Asn	Ile	Thr 55	Glu	Leu	Gly	Pro	Tyr 60	Ser	Leu	Asp	Arg
Asp 65	Ser	Leu	Tyr	Val	Asn 70	Gly	Phe	Thr	His	Gln 75	Asn	Ser	Val	Pro	Thr 80
Thr	Ser	Thr	Pro	Gly 85	Thr	Ser	Thr	Val	Tyr 90	Trp	Ala	Thr	Thr	Gly 95	Thr
Pro	Ser	Ser	Phe 100	Pro	Gly	His	Thr	Glu 105	Pro	Gly	Pro	Leu	Leu 110	Ile	Pro
Phe	Thr	Leu 115	Asn	Phe	Thr	Ile	Thr 120	Asn	Leu	Gln	Tyr	G1u 125	Glu	Asn	Met
Gly	His 130	Pro	Gly	Ser	Arg	Lys 135	Phe	Asn	Ile	Thr	Glu 140	Ser	Val	Leu	Gln
Gly 145	Leu	Leu	Thr	Pro	Leu 150	Phe	Lys	Asn	Ser	Ser 155	Val	Gly	Pro	Leu	Tyr 160
Ser	Gly	Суз	Arg	Leu 165	Ile	Ser	Leu	Arg	Ser 170	Glu	Lys	Asp	Gly	Ala 175	Ala
Thr	Gly	Val	Asp 180	Ala	Ile	Cys	Thr	His 185	His	Leu	Asn	Pro	Gln 190	Ser	Pro
Gly	Leu	Asp 195	Arg	Glu	Gln	Leu	Tyr 200	Trp	Gln	Leu	Ser	Gln 205	Met	Thr	Asn
Gly	11e 210	Lys	Glu	Leu	Gly	Pro 215	Tyr	Thr	Leu	Asp	Arg 220	Asp	Ser	Leu	Tyr
Val 225	Asn	Gly	Phe	Thr	His 230	Arg	Ser	Leu	Gly	Leu 235	Thr	Thr	Ser	Thr	Pro 240
Trp	Thr	Ser	Thr	Val 245	Asp	Leu	Gly	Thr	Ser 250	Gly	Thr	Pro	Ser	Pro 255	Val
Pro	Ser	Pro	Thr 260	Thr	Ala	Gly	Pro	Leu 265	Leu	Ile	Pro	Phe	Thr 270	Leu	Asn
Phe	Thr	11e 275	Thr	Asn	Leu	Gln	Tyr 280	Glu	Glu	Asn	Met	Gly 285	His	Pro	Gly
Ser	Arg 290	Lys	Phe	Asn	Ile	Met 295	Glu	Arg	Val	Leu	Gln 300	Gly	Leu	Leu	Arg
Pro 305	Val	Phe	Lys	Asn	Thr 310	Ser	Val	Gly	Pro	Leu 315	Tyr	Ser	Gly	Cys	Arg 320

Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp 325 330 335

Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg  $340 \hspace{1.5cm} 345 \hspace{1.5cm} 350$ 

Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu 355 360 365

Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe 370 380

Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Pro Thr 385  $\phantom{\bigg|}390\phantom{\bigg|}395\phantom{\bigg|}$ 

Val Asp Leu Gly Thr Ser Gly Thr Pro Val Ser Lys Pro Gly Pro Ser 405  $\phantom{000}405$   $\phantom{000}415$ 

Ala Ala Ser Pro

<210> 39

<211> 439

<212> PRT

<213> Homo sapiens

<400> 39

Glu Arg Val Leu Gln Gly Pro Leu Ser Pro Ile Phe Lys Asn Ser Ser 1  $\phantom{\bigg|}$  5  $\phantom{\bigg|}$  10  $\phantom{\bigg|}$  15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu 20 25 30

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro  $35 \hspace{1cm} 40 \hspace{1cm} 45$ 

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp 65 70 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro 85 90 95

Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn 130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu 145 \$150\$

Gln Gly Leu Leu Asn Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala  $180 \\ 185 \\ 190$ 

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Cys Glu Leu Ser Gln Leu Thr 210 215 220

His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu 225 230 235

Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr 245 250 255

Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser 260 265 270

Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu 275 280 285

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr 290 295 300

Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu 305 \$310\$ 315 320

Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys 325 330 335

Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val

Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp 355 360 365

Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr 370 375 380

Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly 385 \$390\$

Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser 405 410 415

Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His

Thr Ala Pro Gly Pro Leu Leu 435

```
<210> 40
```

<211> 424

<212> PRT

<213> Homo sapiens

<400> 40

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Tyr Thr His 20 25 30

Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp  $35 \hspace{1cm} 40 \hspace{1cm} 45 \hspace{1cm}$ 

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr 50 55 60

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr Ser 65 70 75 80

Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr 85 90 95

Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu 100 105 110

Leu Ile Pro Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu 115 120 125

Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Met Glu Arg 130 135 140

Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly 145 150 150

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp \$165\$

Gly Val Ala Thr Arg Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro  $180 \,$   $\,$   $185 \,$   $\,$   $190 \,$ 

Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp Glu Leu Ser Gln
195 200 205

Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp 210 215 220

 Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro Thr Thr

 225
 230

Ser Thr Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu Thr Pro 245 250 255

Ser Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu Pro Phe  $260 \hspace{1cm} 265 \hspace{1cm} 270 \hspace{1cm}$ 

Thr Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp Met His 275 280 285

Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly 290 295 300

Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser 305 \$310\$ \$315

Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr 325 330 335

Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly  $340 \hspace{1cm} 345 \hspace{1cm} 350$ 

Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser 355 360 365

Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val 370 380

Asn Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly  $385 \hspace{1.5cm} 390 \hspace{1.5cm} 395 \hspace{1.5cm} 395 \hspace{1.5cm}$ 

Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro 405  $\phantom{000}$  410  $\phantom{000}$   $\phantom{000}$   $\phantom{000}$   $\phantom{000}$ 

Gly His Thr Ala Pro Val Pro Leu 420

<210> 41

<211> 418

<212> PRT

<213> Homo sapiens

<400> 41

Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu 20 25 30

Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu  $35 \hspace{1.5cm} 40 \hspace{1.5cm} 45$ 

Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr  $50 \hspace{1.5cm} 60$ 

His Gln Ser Ser Val Ser Thr Thr Ser Thr Pro Gly Thr Ser Thr Val

65					70					75					80
Asp	Leu	Arg	Thr	Ser 85	Gly	Thr	Pro	Ser	Ser 90	Leu	Ser	Ser	Pro	Thr 95	ITE
Met	Ala	Ala	Gly 100	Pro	Leu	Leu	Ile	Pro 105	Phe	Thr	Ile	Asn	Phe 110	Thr	Ile
Thr	Asn	Leu 115	Arg	Tyr	Glu	Glu	Asn 120	Met	His	His	Pro	Gly 125	Ser	Arg	Lys
Phe	Asn 130	Thr	Met	Glu	Arg	Val 135	Leu	Gln	Gly	Leu	Leu 140	Met	Pro	Leu	Phe
Lys 145	Asn	Thr	Ser	Val	Ser 150	Ser	Leu	Tyr	Ser	Gly 155	Cys	Arg	Leu	Thr	Leu 160
Leu	Arg	Pro	Glu	Lys 165	Asp	Gly	Ala	Ala	Thr 170	Arg	Val	Asp	Ala	Val 175	Cys
Thr	His	Arg	Pro 180	Asp	Pro	Lys	Ser	Pro 185	Gly	Leu	Asp	Arg	Glu 190	Arg	Leu
Tyr	Trp	Lys 195	Leu	Ser	Gln	Leu	Thr 200	His	Gly	Ile	Thr	Glu 205	Leu	Gly	Pro
Tyr	Thr 210	Leu	Asp	Arg	Asn	Ser 215	Leu	Tyr	Val	Asn	Gly 220	Phe	Thr	His	Arg
Ser 225	Ser	Met	Pro	Thr	Thr 230	Ser	Thr	Pro	Gly	Thr 235	Ser	Thr	Val	Asp	Val 240
Gly	Thr	Ser	Gly	Thr 245	Pro	Ser	Ser	Ser	Pro 250	Ser	Pro	Thr	Thr	Ala 255	Gly
Pro	Leu	Leu	Met 260	Pro	Phe	Thr	Leu	Asn 265	Phe	Thr	Ile	Thr	Asn 270	Leu	Gln
Tyr	Glu	Glu 275	Asp	Met	Arg	Arg	Thr 280	Gly	Ser	Arg	Lys	Phe 285	Asn	Thr	Met
Glu	Arg 290	Val	Leu	Gln	Gly	Leu 295	Leu	Lys	Pro	Leu	Phe 300	Lys	Ser	Thr	Ser
Val 305	Gly	Pro	Leu	Tyr	Ser 310	Gly	Суѕ	Arg	Leu	Thr 315	Leu	Leu	Arg	Pro	Glu 320
Lys	His	Gly	Ala	Ala 325	Thr	Gly	Val	Asp	Ala 330	Ile	Cys	Thr	Leu	Arg 335	Leu
Asp	Pro	Thr	Gly 340	Pro	Gly	Leu	Asp	Arg 345	Glu	Arg	Leu	Tyr	Trp 350	Glu	Leu
Ser	Gln	Leu 355	Thr	Asn	Ser	Val	Thr 360	Glu	Leu	Gly	Pro	Tyr 365	Thr	Leu	Asp
Arg	Asp 370	Ser	Leu	Tyr	Val	Asn 375	Gly	Phe	Thr	His	Arg 380	Ser	Ser	Val	Pro

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly 385  $\phantom{\bigg|}390\phantom{\bigg|}395\phantom{\bigg|}395\phantom{\bigg|}$ 

Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Ile 405 410 415

Pro Phe

<210> 42

<211> 443

<212> PRT

<213> Homo sapiens

<400> 42

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 1  $\phantom{-}$  5  $\phantom{-}$  10  $\phantom{-}$  15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu \$20\$

Lys Asp Gly Val Ala Thr Arg Val Asp Ala Ile Cys Thr His Arg Pro 35 40 45

Asp Pro Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp 65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu

Thr Pro Ser Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp 130  $$135\$ 

Met His Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Met Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala 180 185 190

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Ser Glu 195 200 205 Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 215 220

Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu 225 230 235

Ile Leu Gly Ile Phe Thr Val Gln Pro Glu Thr Phe Glu Thr Pro Ser  $260 \hspace{1.5cm} 265 \hspace{1.5cm} 270 \hspace{1.5cm}$ 

Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu Pro Phe Thr 275 280 285

Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp Met His Arg 290 295 300

Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 305 310 315

Leu Met Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly 325 330 335

Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly 340 345 350

Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly Leu 355 360 365

Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn 385 390 395 400

Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly Thr 405 410 415

Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly 420 425 430

His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe

<210> 43

<211> 442

<212> PRT

<213> Homo sapiens

<400> 43

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser

1				5					10					15	
Leu	Glu	Tyr	Leu 20	Tyr	Ser	Gly	Суз	Arg 25	Leu	Ala	Ser	Leu	Arg 30	Pro	Glu
Lys	Asp	Ser 35	Ser	Ala	Met	Ala	Val 40	Asp	Ala	Ile	Суз	Thr 45	His	Arg	Pro
Asp	Pro 50	Glu	Asp	Leu	Gly	Leu 55	Asp	Arg	Glu	Arg	Leu 60	Tyr	Trp	Glu	Leu
Ser 65	Asn	Leu	Thr	Asn	Gly 70	Ile	Gln	Glu	Leu	Gly 75	Pro	Tyr	Thr	Leu	Asp 80
Arg	Asn	Ser	Leu	Tyr 85	Val	Asn	Gly	Phe	Thr 90	His	Arg	Ser	Ser	Met 95	Pro
Thr	Thr	Ser	Thr 100	Pro	Gly	Thr	Ser	Thr 105	Val	Asp	Val	Gly	Thr 110	Ser	Gly
Thr	Pro	Ser 115	Ser	Ser	Pro	Ser	Pro 120	Thr	Thr	Ala	Gly	Pro 125	Leu	Leu	Met
Pro	Phe 130	Thr	Leu	Asn	Phe	Thr 135	Ile	Thr	Asn	Leu	Gln 140	Tyr	Glu	Glu	Asp
Met 145	Arg	Arg	Thr	Gly	Ser 150	Arg	Lys	Phe	Asn	Thr 155	Met	Glu	Ser	Val	Leu 160
Gln	Gly	Leu	Leu	Lys 165	Pro	Leu	Phe	Lys	Asn 170	Thr	Ser	Val	Gly	Pro 175	Leu
Tyr	Ser	Gly	Cys 180	Arg	Leu	Thr	Leu	Leu 185	Arg	Pro	Lys	Lys	Asp 190	Gly	Ala
Ala	Thr	Gly 195	Val	Asp	Ala	Ile	Cys 200	Thr	His	Arg	Leu	Asp 205	Pro	Lys	Ser
Pro	Gly 210	Leu	Asn	Arg	Glu	Gln 215	Leu	Tyr	Trp	Glu	Leu 220	Ser	Lys	Leu	Thr
Asn 225	Asp	Ile	Glu	Glu	Val 230	Gly	Pro	Tyr	Thr	Leu 235	Asp	Arg	Asn	Ser	Leu 240
Tyr	Val	Asn	Gly	Phe 245	Thr	His	Arg	Ser	Phe 250	Val	Ala	Pro	Thr	Ser 255	Thr
Leu	Gly	Thr	Ser 260	Thr	Val	Asp	Leu	Gly 265	Thr	Ser	Gly	Thr	Pro 270	Ser	Ser
Leu	Pro	Ser 275	Pro	Thr	Thr	Gly	Val 280	Pro	Leu	Leu	Ile	Pro 285	Phe	Thr	Leu
Asn	Phe 290	Thr	Ile	Thr	Asn	Leu 295	Gln	Tyr	Glu	Glu	Asn 300	Met	Gly	His	Pro
Gly 305	Ser	Arg	Lys	Phe	Asn 310	Ile	Met	Glu	Arg	Val 315	Leu	Gln	Gly	Leu	Leu 320

Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly Cys 325 330 335

Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Arg Val\$340\$ \$345\$

Val Ala Val Cys Thr His Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp 355 360 365

Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr His Gly Ile Thr 370 375 380

Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Leu Tyr Val Asn Gly 385  $\phantom{\bigg|}$  390  $\phantom{\bigg|}$  395  $\phantom{\bigg|}$  400

Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr Pro Asp Thr Ser  $405 \hspace{1cm} 410 \hspace{1cm} 415$ 

Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser Leu Ser Gly Pro 420 425 430

Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe 435 440

<210> 44

<211> 442

<212> PRT

<213> Homo sapiens

<400> 44

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 1  $\phantom{\bigg|}$  5  $\phantom{\bigg|}$  10  $\phantom{\bigg|}$  15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu  $35 \hspace{1.5cm} 40 \hspace{1.5cm} 45$ 

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp 65 70 75 80

Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro  $85 \hspace{1cm} 90 \hspace{1cm} 95$ 

Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu  $100 \\ 0.05 \\ 105 \\ 110$ 

Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile 115 120 125 Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn 130 \$135\$

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu 145 \$150\$

Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Ser Ser 180 185 190

Thr Met Ala Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu Asp 195 200 205

Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn Leu Thr 210 215 220

Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Ser Phe Met Pro Thr Thr Ser Thr 245 250 255

Leu Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser 260 265 270

Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met Pro Phe Thr Leu 275 280 285

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr 290 295 300

Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu Gln Gly Leu Leu 305  $\phantom{\bigg|}$  310  $\phantom{\bigg|}$  320

Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys \$325\$

Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Gly Val

Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn 355 360 365

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu 370 375 380

Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly 385 390 395

Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr Pro Gly Thr Ser 405 410 415

Thr Val Asp Pro Arg Thr Ser Gly Thr Pro Ser Ser Leu Ser Ser Pro  $420 \hspace{1.5cm} 425 \hspace{1.5cm} 430 \hspace{1.5cm}$ 

Thr Ile Met Ala Ala Gly Pro Leu Leu Ile

435 440 <210> 4.5 <211> 379 <212> PRT <213> Homo sapiens <400> 45 Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys Tyr Glu Glu Asp Met His Cys Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Ser Leu Phe Gly Pro Met Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Phe Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 215 Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 235 230

Tyr Val Asn Gly Phe Thr His Gln Thr Ser Ala Pro Asn Thr Ser Thr

Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser 260 265 270

Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu Leu Val Pro Phe Thr Leu 275 280 285

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr 290 295 300

Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu Gln Gly Leu Leu 305  $\phantom{\bigg|}$  310  $\phantom{\bigg|}$  315  $\phantom{\bigg|}$  320

Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys 325 330 335

Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Val

Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn 355 360 365

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu 370 375

<210> 46

<211> 439

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> (1)..(439)

<223> Any "X" = any amino acid

<400> 46

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 1  $\phantom{\bigg|}$  5  $\phantom{\bigg|}$  10  $\phantom{\bigg|}$  15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu 35 40 45

Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu

	50					55					60				
Ser 65	Gln	Leu	Thr	Asn	Ser 70	Val	Thr	Glu	Leu	Gly 75	Pro	Tyr	Thr	Leu	Asp 80
Arg	Asp	Ser	Leu	Tyr 85	Val	Asn	Gly	Phe	Thr 90	His	Arg	Ser	Ser	Val 95	Pro
Thr	Thr	Ser	Ile 100	Pro	Gly	Thr	Ser	Ala 105	Val	His	Leu	Glu	Thr 110	Ser	Gly
Thr	Pro	Ala 115	Ser	Leu	Pro	Gly	His 120	Thr	Ala	Pro	Gly	Pro 125	Leu	Leu	Ile
Pro	Phe 130	Thr	Leu	Asn	Phe	Thr 135	Ile	Thr	Asn	Leu	His 140	Tyr	Glu	Glu	Asn
Met 145	Gln	His	Pro	Gly	Ser 150	Arg	Lys	Phe	Asn	Thr 155	Met	Glu	Arg	Val	Leu 160
Gln	Gly	Cys	Leu	Val 165	Pro	Cys	Ser	Arg	Asn 170	Thr	Asn	Val	Gly	Leu 175	Leu
Tyr	Ser	Gly	Cys 180	Arg	Leu	Thr	Leu	Leu 185	Xaa	Xaa	Xaa	Xaa	Xaa 190	Xaa	Xaa
Xaa	Xaa	Xaa 195	Xaa	Xaa	Xaa	Xaa	Xaa 200	Xaa	Xaa	Xaa	Xaa	Xaa 205	Xaa	Xaa	Xaa
Xaa	Xaa 210	Xaa	Xaa	Xaa	Xaa	Xaa 215	Xaa	Xaa	Xaa	Xaa	Xaa 220	Xaa	Xaa	Xaa	Xaa
Xaa 225	Xaa	Xaa	Xaa	Xaa	Xaa 230	Gly	Pro	Tyr	Thr	Leu 235	Asp	Arg	Asn	Ser	Leu 240
Tyr	Val	Asn	Gly	Phe 245	Thr	His	Arg	Ser	Ser 250	Val	Ala	Pro	Thr	Ser 255	Thr
Pro	Gly	Thr	Ser 260	Thr	Val	Asp	Leu	Gly 265	Thr	Ser	Gly	Thr	Pro 270	Ser	Ser
Leu	Pro	Ser 275	Pro	Thr	Thr	Val	Pro 280	Leu	Leu	Val	Pro	Phe 285	Thr	Leu	Asn
Phe	Thr 290	Ile	Thr	Asn	Leu	Gln 295	Tyr	Gly	Glu	Asp	Met 300	Arg	His	Pro	Gly
Ser 305	Arg	Lys	Phe	Asn	Thr 310	Thr	Glu	Arg	Val	Leu 315	Gln	Gly	Leu	Leu	Gly 320
Pro	Leu	Phe	Lys	Asn 325	Ser	Ser	Val	Gly	Pro 330	Leu	Tyr	Ser	Gly	Cys 335	Arg
Leu	Ile	Ser	Leu 340	Arg	Ser	Glu	Lys	Asp 345	Gly	Ala	Ala	Thr	Gly 350	Val	Asp
Ala	Ile	Cys 355	Thr	His	His	Leu	Asn 360	Pro	Gln	Ser	Pro	Gly 365	Leu	Asp	Arg

Glu Gln Leu Tyr Trp Gln Leu Ser Gln Val Thr Asn Gly Ile Lys Glu 370 375 380

Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe 385 390 395 400

Thr His Arg Ser Ser Gly Leu Thr Thr Ser Thr Pro Trp Thr Ser Thr 405 \$410\$

Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Pro Val Pro Ser Pro Thr  $420 \hspace{1cm} 425 \hspace{1cm} 430 \hspace{1cm}$ 

Thr Ala Gly Pro Leu Leu Ile 435

100

115

<210> 47

<211> 1366

<212> PRT

<213> Homo sapiens

<400> 47

Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu 20 25 30

Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro  $35 \hspace{1cm} 40 \hspace{1cm} 45$ 

Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu 50 55 60

Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp 65 70 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro 85 95 Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly

Thr Pro Ser Ser Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp 130 135 140

Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu 145 \$150\$

Gln Gly Pro Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala 180 185 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asp Pro Lys Arg

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 220

His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr \$245\$

Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser 260 265 270

Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu 275 280 285

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His Pro 290 295 300

Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu Gln Gly Leu Leu 305 \$310\$ 315 320

Asn Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys  $325 \hspace{1cm} 330 \hspace{1cm} 335$ 

Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Met 340 345 350 ,

Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp 355 360 365

Arg Glu Gln Leu Tyr Cys Glu Leu Ser Gln Leu Thr His Asn Ile Thr 370 380

Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly 385 390 395 400

Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser 410  $\,$  415

Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His 420 425 430

Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile 435  $\phantom{0}440$   $\phantom{0}445$ 

Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys 450 455 460

Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe 465 470 480

Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu

495

790

795

13

COCKYDO, COCKYC

785

- Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu Lys Asp Ser Ser 815  $815\,$
- Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu Asp 820 825 830
- Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn Leu Thr 835 840 845
- Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 850 855 860
- Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr 865  $\phantom{\bigg|}$  870  $\phantom{\bigg|}$  870  $\phantom{\bigg|}$  880  $\phantom{\bigg|}$
- Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser 885 890 895
- Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met Pro Phe Thr Leu
- Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr 915 920 925
- Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu Gln Gly Leu Leu 930 935 940
- Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys 945 950 950 955 960
- Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Gly Val965 970 975
- Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn 980 985 990
- Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu 995 1000 1005
- Glu Val Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn 1010 1015 1020
- Gly Phe Thr His Arg Ser Phe Val Ala Pro Thr Ser Thr Leu Gly 1025  $\phantom{0}1030$   $\phantom{0}1035$
- Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu  $1040 \\ \hspace*{1.5cm} 1045 \\ \hspace*{1.5cm} 1050 \\ \hspace*{1.5cm}$
- Pro Ser Pro Thr Thr Gly Val Pro Leu Leu Ile Pro Phe Thr Leu 1055  $\phantom{\bigg|}$  1060  $\phantom{\bigg|}$  1065
- Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu Gln Gly 1085 1090 1095
- Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Ser Leu Tyr 1100 1105 1110

Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala 1120 Ala Thr Arg Val Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys 1135 1130 Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln 1145 1150 Leu Thr His Gly Ile Ile Glu Leu Gly Pro Tyr Thr Leu Asp Arg 1165 His Ser Phe Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr 1175 1180 Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser 1195 Arg Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu 1205 1210 Leu Val Leu Phe Thr Ile Asn Phe Thr Ile Thr Asn Gln Arg Tyr 1225 Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr 1235 Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg 1265 Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr 1280 1285 Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu 1295 1300 Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly 1310 1315 Pro Tyr Thr Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr 1325 1330 His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala 1340 1345 Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro 1355 1360 <210> 48

<211> 48

<212> PRT

## <213> Homo sapiens

<400> 48

Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly Cys 1 5 10 15

Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp 35 40 45

Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr His Gly Ile Ile 50  $\,$  55  $\,$  60  $\,$ 

Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Phe Tyr Val Asn Gly 65 70 75 80

Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr Pro Asp Thr Ser 85 90 95

Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser Leu Ser Gly Pro
100 105 110

Thr Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Phe Thr Ile 115 120 125

Thr Asn Gln Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys 130 135 140

Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe 145 150 150

Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu 165 170 175

Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys 180 185 190

Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu 195 200 205

Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro 210 220 220

Tyr Thr Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg 225 230 235 240

Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu  $245 \hspace{1cm} 250 \hspace{1cm} 255 \hspace{1cm}$ 

Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly Pro Ser Ala Ala Ser 260 265 270

Pro Leu Leu Val Leu Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Arg 275 280 285

545

Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Arg Ser Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Thr Ala Thr Gly Val Asp Ala Ile Cys Thr His His Pro Asp Pro Lys Ser Pro Arg Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly His Tyr Ala Leu Asp Asn Asp Ser Leu Phe Val Asn Gly Phe Thr His Arg Ser Ser Val Ser 390 Thr Thr Ser Thr Pro Gly Thr Pro Thr Val Tyr Leu Gly Ala Ser Lys 410 Thr Pro Ala Ser Ile Phe Gly Pro Ser Ala Ala Ser His Leu Leu Ile Leu Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn 440 Met Trp Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Ser Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Glu Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Gln Leu Tyr Leu Glu Leu Ser Gln Leu Thr His

Val Val Ser Glu Glu Pro Phe Thr Leu Asn Phe Thr Ile Asn Asn Leu  $_{565}$  Arg Tyr Met Ala Asp Met Gly Gln Pro Gly Ser Leu Lys Phe Asn Ile  $_{580}$  Thr Asp Asn Val Met Lys His Leu Leu Ser Pro Leu Phe Gln Arg Ser

Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr 530 540

Val Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Thr Gly

595 600 605 Ser Leu Gly Ala Arg Tyr Thr Gly Cys Arg Val Ile Ala Leu Arg Ser Val Lys Asn Gly Ala Glu Thr Arg Val Asp Leu Leu Cys Thr Tyr Leu 635 Gln Pro Leu Ser Gly Pro Gly Leu Pro Ile Lys Gln Val Phe His Glu 650 Leu Ser Gln Gln Thr His Gly Ile Thr Arg Leu Gly Pro Tyr Ser Leu Asp Lys Asp Ser Leu Tyr Leu Asn Gly Tyr Asn Glu Pro Gly Leu Asp Glu Pro Pro Thr Thr Pro Lys Pro Ala Thr Thr Phe Leu Pro Pro Leu Ser Glu Ala Thr Thr Ala Met Gly Tyr His Leu Lys Thr Leu Thr Leu 710 Asn Phe Thr Ile Ser Asn Leu Gln Tyr Ser Pro Asp Met Gly Lys Gly Ser Ala Thr Phe Asn Ser Thr Glu Gly Val Leu Gln His Leu Leu Arg 745 Pro Leu Phe Gln Lys Ser Ser Met Gly Pro Phe Tyr Leu Gly Cys Gln Leu Ile Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Thr Thr Cys Thr Tyr His Pro Asp Pro Val Gly Pro Gly Leu Asp Ile Gln Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Val Thr Gln Leu Gly Phe Tyr Val Leu Asp Arg Asp Ser Leu Phe Ile Asn Gly Tyr Ala Pro Gln Asn Leu Ser Ile Arg Gly Glu Tyr Gln Ile Asn Phe His Ile Val Asn Trp Asn Leu Ser Asn Pro Asp Pro Thr Ser Ser Glu Tyr 850 Ile Thr Leu Leu Arg Asp Ile Gln Asp Lys Val Thr Thr Leu Tyr Lys Gly Ser Gln Leu His Asp Thr Phe Arg Phe Cys Leu Val Thr Asn Leu 885 890 Thr Met Asp Ser Val Leu Val Thr Val Lys Ala Leu Phe Ser Ser Asn 900 905 910

Leu Asp Pro Ser Leu Val Glu Gln Val Phe Leu Asp Lys Thr Leu Asn 915 920 925

Ala Ser Phe His Trp Leu Gly Ser Thr Tyr Gln Leu Val Asp Ile His 930 935 940

Thr Gln His Phe Tyr Leu Asn Phe Thr Ile Thr Asn Leu Pro Tyr Ser 965 970 975

Gln Asp Lys Ala Gln Pro Gly Thr Thr Asn Tyr Gln Arg Asn Lys Arg  $980 \hspace{1.5cm} 985 \hspace{1.5cm} 990$ 

Asn Ile Glu Asp Ala Leu Asn Gln Leu Phe Arg Asn Ser Ser Ile Lys 995 1000 1005

Ser Tyr Phe Ser Asp Cys Gln Val Ser Thr Phe Arg Ser Val Pro 1010  $\phantom{0}$  1015  $\phantom{0}$  1020

Asn Arg His His Thr Gly Val  $\,$  Asp Ser Leu Cys Asn  $\,$  Phe Ser Pro  $\,$  1025  $\,$   $\,$  1030  $\,$   $\,$  1035

Leu Ala Arg Arg Val Asp Arg Val Ala Ile Tyr Glu Glu Phe Leu  $1040 \hspace{1.5cm} 1045 \hspace{1.5cm} 1045 \hspace{1.5cm}$ 

Arg Met Thr Arg Asn Gly Thr Gln Leu Gln Asn Phe Thr Leu Asp 1055 1060 1065

Arg Ser Ser Val Leu Val Asp Gly Tyr Ser Pro Asn Arg Asn Glu 1070 1075 1080

Pro Leu Thr Gly Asn Ser Asp Leu Pro Phe Trp Ala Val Ile Leu 1085  $\phantom{\bigg|}$  1090  $\phantom{\bigg|}$  1095

Gly Val Leu Val Thr Thr Arg Arg Arg Lys Lys Glu Gly Glu Tyr 1115 1120 1125

Asn Val Gln Gln Gln Cys Pro Gly Tyr Tyr Gln Ser His Leu Asp 1130 1140

Leu Glu Asp Leu Gln 1145

<210> 49

<211> 6833

<212> DNA

<213> Homo sapiens

gagagggtte tgcagggtct gctcaaaccc ttgttcagga atagcagtct ggaatacctc 60 120 tattcaggct gcagactagc ctcactcagg ccagagaagg atagctcagc catggcagtg 180 gatgecatct gcacacatcg ccctgaccet gaagacctcg gactggacag agagcgactg tactgggagc tgagcaatct gacaaatggc atccaggagc tgggccccta caccctggac 240 eggaacagte tetatgteaa tggttteace categaaget etatgeecae eaceageact 300 cctgggacct ccacagtgga tgtgggaacc tcagggactc catcctccag ccccagcccc 360 420 acgactgctg gccctctcct gatgccgttc accctcaact tcaccatcac caacctgcag tacgaggagg acatgcgtcg cactggetcc aggaagttca acaccatgga gagggttctg 480 540 cagggtccgc ttagtcccat attcaagaac tccagtgttg gccctctgta ctctggctgc 600 agactgacct ctctcaggcc cgagaaggat ggggcagcaa ctggaatgga tgctgtctgc 660 ctctaccacc ctaatcccaa aagacctggg ctggacagag agcagetgta ctgggageta 720 agecagetga cecacaacat caetgagetg ggeceetaca geetggacag ggacagtete 780 tatgtcaatg gtttcaccca tcagaactct gtgcccacca ccagtactcc tgggacctcc acagtgtact gggcaaccac tgggactcca tcctccttcc ccggccacac agagcctggc 840 ceteteetga taecatteae geteaaette accateaeta acetaeagta tgaggagaae 900 atgggtcacc ctggctccag gaagttcaac atcacggaga gggttctgca gggtctgctt 960 aatcccattt tcaagaactc cagtgttggc cctctgtact ctggctgcag actgacctct 1020 ctcaggcccg agaaggatgg ggcagcaact ggaatggatg ctgtctgcct ctaccaccct 1080 aatcccaaaa gacctgggct ggacagagag cagctgtact gcgagctaag ccagctgacc 1140 cacaacatca ctgagctggg cccctacagc ttggacaggg acagtcttta tgtcaatggt 1200 tteacceate agaactetgt geocaceace agtacteetg ggaceteeac agtgtactgg 1260 geaaceactg ggactecate etectteece ggecacacag ageetggeee tetectgata 1320 ccattcaccc tcaacttcac catcaccaac ctgcagtacg aggaggacat gcgtcgcact 1380 1440 ggctccagga agttcaacac catggagagg gttctgcagg gtctgctcaa gcccttgttc 1500 aagagcacca gegttggeee tetgtactet ggetgeagae tgaeettget cagacetgag 1560 aaacatgggg cagccactgg agtggacgcc atctgcaccc tccgccttga tcccactggt cctggactgg acagagageg gctatactgg gagctgagec agctgaccaa cagcgttaca 1620 gagctgggcc cctacaccct ggacagggac agtctctatg tcaatggctt cacccatcgg 1680 agetetgtge caaccaccag tatteetggg acctetgcag tgcacctgga aacctetggg 1740 actocageet coetecetgg ceacacagee cetggeeete teetggtgee atteaceete 1800

aacttcacta tcaccaacct gcagtatgag gaggacatgc gtcaccctgg ttccaggaag 1860 ttcaacacca cggagagagt cctgcagggt ctgctcaagc ccttgttcaa gagcaccagt 1920 gttggccctc tgtactctgg ctgcagactg accttgctca ggcctgaaaa acgtggggca 1980 2040 agagagcagc tatactggga gctgagcaaa ctgacccgtg gcatcatcga gctgggcccc 2100 tacctcctgg acagaggcag tctctatgtc aatggtttca cccatcggaa ctttgtgccc 2160 atcaccagca ctcctgggac ctccacagta cacctaggaa cctctgaaac tccatcctcc ctacctagac ccatagtgcc tggccctctc ctgataccat tcacactcaa cttcaccatc 2280 actaacctac agtatgagga gaacatgggt caccctggct ccaggaagtt caacatcacg 2340 gagagggttc tgcagggtct gctcaaaccc ttgttcagga atagcagtct ggaatacctc 2400 tattcaggct gcagactaac ctcactcagg ccagagaagg atagctcaac catggcagtg 2460 gatgccatct gcacacatcg ccctgaccct gaagacctcg gactggacag agagcgactg 2520 tactgggage tgagcaatct gacaaatgge atccaggage tgggccccta caccctggae 2580 eggaacagte tetatgteaa tggttteace categaaget etatgeecac caceageact 2640 cotgggacct ccacagtgga tgtgggaacc tcagggactc catcctccag ccccagcccc acgactgctg geoctetect gatgccgttc accetcaact teaccatcac caacetgcag 2760 tacgaggagg acatgcgtcg cactggctcc aggaagttca acaccatgga gagtgtcctg 2820 cagggtctgc tcaagccctt gttcaagaac accagtgttg gccctctgta ctctggctgc 2880 agattgacct tgctcaggcc caagaaagat ggggcagcca ctggagtgga tgccatctgc 2940 acccacegee ttgaceeeaa aageeetgga etcaacaggg ageagetgta etgggagtta 3000 agcaaactga ccaatgacat tgaagaggtg ggcccctaca ccttggacag gaacagtctc 3060 tatgtcaatg gtttcaccca tcggagettt gtggccccca ccagcactct tgggacctcc 3120 acagtggacc ttgggacctc agggactcca tectecetee ecageeccae aacaggtgtt 3180 cototootga taccattcac actcaacttc accatcacta acetacagta tgaggagaac 3240 atgggtcacc ctggctccag gaagttcaac atcatggaga gggttctgca gggtctqctt 3300 atgecettgt teaagaacae eagtgteage tetetgtaet etggttgeag actgaeettg 3360 ctcaggcctg agaaggatgg ggcagccacc agagtggttg ctgtctgcac ccatcgtcct 3420 gaccccaaaa gccctggact ggacagagag cggctgtact ggaagctgag ccagctgacc 3480 cacggcatca ctgagctggg cccctacacc ctggacaggc acagtctcta tgtcaatggt 3540

ttcacccatc agagetetat gacgaccacc agaacteetg atacetecac aatgeacetg 3600 gcaacctcga gaactccagc ctccctgtct ggacctacga ccgccagccc tctcctgata 3660 ccattcacaa ttaacttcac catcactaac ctgcggtatg aggagaacat gcatcaccct 3720 ggctctagaa agtttaacac cacggagaga gtccttcagg gtctgctcag gcctgtgttc 3780 aagaacacca gtgttggeec tetgtaetet ggetgeagae tgaeettget eaggeecaag 3840 aaggatgggg cagccaccaa agtggatgcc atctgcacct accqccctga tcccaaaaagc 3900 cctggactgg acagagagca gctatactgg gagctgagcc agctaaccca cagcatcact 3960 gagetgggcc cctacaccct ggacagggac agtetetatg teaatggttt cacacagegg 4020 agetetgtge ecaecactag catteetggg acceccacag tggacetggg aacatetggg 4080 actocagttt ctaaacctgg tocctcggct gccagccctc toctggtgct attcactctc 4140 aacttcacca tcaccaacct geggtatgag gagaacatgc agcaccetgg ctecaggaag 4200 ttcaacacca cggagagggt ccttcagggc ctgctcaggt ccctgttcaa gagcaccagt 4260 gttggccctc tgtactctgg ctgcagactg actttgctca ggcctgaaaa ggatgggaca 4320 gecaetggag tggatgecat etgeacceae caccetgace ceaaaagcee taggetggae 4380 agagagcage tgtattggga getgagecag etgaeceaca atateaetga getgggecae 4440 tatgccctgg acaacgacag cctctttgtc aatggtttca ctcatcggag ctctgtgtcc 4500 accaccagca ctcctgggac occcacagtg tatctgggag catctaagac tccagcctcg 4560 atatttggcc cttcagctgc cagccatctc ctgatactat tcaccctcaa cttcaccatc 4620 actaacctgc ggtatgagga gaacatgtgg cctggctcca ggaagttcaa cactacagag 4680 agggtccttc agggcctgct aaggcccttg ttcaagaaca ccagtgttgg ccctctgtac 4740 tetggeteca ggetgacett geteaggeea gagaaagatg gggaageeae eggagtggat 4800 gecatetgca eccacegece tgaceceaca ggecetggge tggacagaga geagetgtat 4860 ttggagetga gecagetgae ecacageate actgagetgg geceetaeae actggacagg 4920 gacagtetet atgteaatgg ttteacceat eggagetetg tacceaceae eageaceggg 4980 gtggtcagcg aggagccatt cacactgaac ttcaccatca acaacctgcg ctacatggcg 5040 gacatgggcc aacceggete ceteaagtte aacateacag acaaegteat gaagcacetg 5100 ctcagtcctt tgttccagag gagcagcctg ggtgcacggt acacaggctg cagggtcatc 5160 gcactaaggt ctgtgaagaa cggtgctgag acacgggtgg acctcctctg cacctacctg 5220 cageceetea geggeecagg tetgeetate aageaggtgt tecatgaget gagecageag 5280 acceatggea teaccegget gggecectae tetetggaca aagacageet etacettaac 5340

5400 ggttacaatg aacctggtct agatgagcct cctacaactc ccaagccagc caccacattc etgeeteete tgteagaage cacaacagee atggggtaee acetgaagae ceteacaete 5460 5520 aacttcacca totocaatot ocagtattca ocagatatgg gcaagggoto agotacatto aactccaccg agggggtcct tcagcacctg ctcagaccct tgttccagaa gagcagcatg 5580 ggccccttct acttgggttg ccaactgatc tccctcaggc ctgagaagga tggggcagcc 5640 actggtgtgg acaccacctg cacctaccac cctgaccctg tgggccccgg gctggacata 5700 5760 cagcagettt actgggaget gagtcagetg acceatggtg teacceaact gggettetat gtcctggaca gggatagcct cttcatcaat ggctatgcac cccagaattt atcaatccgg 5820 ggcgagtacc agataaattt ccacattgtc aactggaacc tcagtaatcc agaccccaca 5880 tcctcagagt acatcaccct gctgagggac atccaggaca aggtcaccac actctacaaa 5940 ggcagtcaac tacatgacac attecgette tgcetggtca ccaacttgac gatggactec 6000 gtgttggtca ctgtcaaggc attgttctcc tccaatttgg accccagcct ggtggagcaa 6060 gtotttotag ataagaccot gaatgootca ttocattggo tgggotecac etaceagttg 6120 gtggacatcc atgtgacaga aatggagtca tcagtttatc aaccaacaag cagctccagc 6180 acccagcact totacccgaa tttcaccatc accaacctac catattccca ggacaaagcc 6240 6300 cagccaggca ccaccaatta ccagaggaac aaaaggaata ttgaggatgc gctcaaccaa ctcttccgaa acagcagcat caagagttat ttttctgact gtcaagtttc aacattcagg 6360 tetgteccca acaggeacca caceggggtg gactecetgt gtaacttete gecaetgget 6420 cggagagtag acagagttgc catctatgag gaatttetge ggatgacceg gaatggtace 6480 cagctgcaga acttcaccct ggacaggagc agtgtccttg tggatgggta ttctcccaac 6540 agaaatgagc ccttaactgg gaattctgac cttcccttct gggctgtcat cttcatcggc 6600 ttggcaggac teetgggact catcacatgc ctgatctgcg gtgteetggt gaccacccgc 6660 cggcggaaga aggaaggaga atacaacgtc cagcaacagt gcccaggcta ctaccagtca 6720 cacctagacc tggaggatct gcaatgactg gaacttgccg gtgcctgggg tgcctttccc 6780 ccagccaggg tccaaagaag cttggctggg gcagaaataa accatattgg tcg 6833

<210> 50

<211> 2248

<212> PRT

## <213> Homo sapiens

<400> 50

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser 1  $\phantom{\bigg|}$  10  $\phantom{\bigg|}$  15

Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu 20 25 30

Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro  $35 \hspace{1cm} 40 \hspace{1cm} 45$ 

Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu 50 60

Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp 65 70 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro  $85 \hspace{0.5cm} 90 \hspace{0.5cm} 95$ 

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly 100 \$105\$

Thr Pro Ser Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp 130 135 140

Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu 145 \$150\$

Gln Gly Pro Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu  $165 \\ 170 \\ 175 \\ 175$ 

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala 180 185 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 215 220

His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu 225  $\phantom{\bigg|}230\phantom{\bigg|}235\phantom{\bigg|}235\phantom{\bigg|}$  240

Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr 245 250 255

Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser 260 265 270

Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu 275 280 285

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His Pro  $290 \\ \hspace*{1.5cm} 295 \\ \hspace*{1.5cm} 300 \\ \hspace*{1.5cm}$ 

Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu Gln Gly Leu Leu 305 \$310\$ \$315

Asn Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys \$325\$ \$330

Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Met  $340 \hspace{1.5cm} 345 \hspace{1.5cm} 345 \hspace{1.5cm} 350 \hspace{1.5cm}$ 

Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp 355 360 365

Arg Glu Gln Leu Tyr Cys Glu Leu Ser Gln Leu Thr His Asn Ile Thr 370 375 380

Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly 385 390 395 400

Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser 405 410 415

Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His 420 425 430

Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile 435 440 445

Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe 465 470 475

Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu 485 490 495

Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys 500 500 510

Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu 515 520 525

Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro 530 535 540

Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg 545 550 555 560

Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly 580 585 590

Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln

595 600 605 Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 630 635 Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser 885 Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met Pro Phe Thr Leu 900 905 910

- Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr 915 920 925
- Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu Gln Gly Leu Leu 930 935 940
- Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys 945 950 955 960
- Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Gly Val 965 970 975
- Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn 980 985 990
- Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu 995 1000 1005
- Glu Val Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn  $1010 \hspace{1.5cm} 1015 \hspace{1.5cm} 1020 \hspace{1.5cm}$
- Gly Phe Thr His Arg Ser Phe Val Ala Pro Thr Ser Thr Leu Gly 1025 1030 1035
- Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu 1040 1045 1050
- Pro Ser Pro Thr Thr Gly Val Pro Leu Leu Ile Pro Phe Thr Leu 1055 1060 1065
- Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His 1070 1075 1080
- Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu Gln Gly 1085 1090 1095
- Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Ser Leu Tyr 1100 1105
- Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala 1115 1120 1125
- Ala Thr Arg Val Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys 1130 1135 1140
- Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln 1145 1150 1155
- Leu Thr His Gly Ile Ile Glu Leu Gly Pro Tyr Thr Leu Asp Arg 1160 1165 1170
- His Ser Phe Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr 1175 1180 1185
- Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser 1190 \$1200\$
- Arg Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu 1205 1210 1215

Leu	Val 1220	Leu	Phe	Thr	Ile	Asn 1225	Phe	Thr	Ile	Thr	Asn 1230	Gln	Arg	Tyr
Glu	Glu 1235	Asn	Met	His	His	Pro 1240	Gly	Ser	Arg	Lys	Phe 1245	Asn	Thr	Thr
Glu	Arg 1250	Val	Leu	Gln	Gly	Leu 1255	Leu	Arg	Pro	Val	Phe 1260	Lys	Asn	Thr
Ser	Val 1265	Gly	Pro	Leu	Tyr	Ser 1270	Gly	Cys	Arg	Leu	Thr 1275	Leu	Leu	Arg
Pro	Lys 1280	Lys	Asp	Gly	Ala	Ala 1285	Thr	Lys	Val	Asp	Ala 1290	Ile	Cys	Thr
Tyr	Arg 1295	Pro	Asp	Pro	Lys	Ser 1300	Pro	Gly	Leu	Asp	Arg 1305	Glu	Gln	Leu
Tyr	Trp 1310	Glu	Leu	Ser	Gln	Leu 1315	Thr	His	Ser	Ile	Thr 1320	Glu	Leu	Gly
Pro	Tyr 1325	Thr	Gln	Asp	Arg	Asp 1330	Ser	Leu	Tyr	Val	Asn 1335	Gly	Phe	Thr
His	Arg 1340	Ser	Ser	Val	Pro	Thr 1345	Thr	Ser	Ile	Pro	Gly 1350	Thr	Ser	Ala
Val	His 1355	Leu	Glu	Thr	Ser	Gly 1360	Thr	Pro	Ala	Ser	Leu 1365	Pro	Gly	Pro
Ser	Ala 1370	Ala	Ser	Pro	Leu	Leu 1375	Val	Leu	Phe	Thr	Leu 1380	Asn	Phe	Thr
Ile	Thr 1385	Asn	Leu	Arg	Tyr	Glu 1390	Glu	Asn	Met	Gln	His 1395	Pro	Gly	Ser
Arg	Lys 1400	Phe	Asn	Thr	Thr	Glu 1405	Arg	Val	Leu	Gln	Gly 1410	Leu	Leu	Arg
Ser	Leu 1415	Phe	Lys	Ser	Thr	Ser 1420	Val	Gly	Pro	Leu	Tyr 1425	Ser	Gly	Cys
Arg	Leu 1430	Thr	Leu	Leu	Arg	Pro 1435	Glu	Lys	Asp	Gly	Thr 1440	Ala	Thr	Gly
Val	Asp 1445	Ala	Ile	Cys	Thr	His 1450	His	Pro	Asp	Pro	Lys 1455	Ser	Pro	Arg
Leu	Asp 1460	Arg	Glu	Gln	Leu	Tyr 1465	Trp	Glu	Leu	Ser	Gln 1470	Leu	Thr	His
Asn	Ile 1475	Thr	Glu	Leu	Gly	His 1480	Tyr	Ala	Leu	Asp	Asn 1485	Asp	Ser	Leu
Phe	Val 1490	Asn	Gly	Phe	Thr	His 1495	Arg	Ser	Ser	Val	Ser 1500	Thr	Thr	Ser

Thr Pro Gly Thr Pro Thr Val Tyr Leu Gly Ala Ser Lys Thr Pro

	1505					1510					1515			
Ala	Ser 1520	Ile	Phe	Gly	Pro	Ser 1525	Ala	Ala	Ser	His	Leu 1530	Leu	Ile	Leu
Phe	Thr 1535	Leu	Asn	Phe	Thr	Ile 1540	Thr	Asn	Leu	Arg	Tyr 1545	Glu	Glu	Asn
Met	Trp 1550	Pro	Gly	Ser	Arg	Lys 1555	Phe	Asn	Thr	Thr	Glu 1560	Arg	Val	Leu
Gln	Gly 1565	Leu	Leu	Arg	Pro	Leu 1570	Phe	Lys	Asn	Thr	Ser 1575	Val	Gly	Pro
Leu	Tyr 1580	Ser	Gly	Ser	Arg	Leu 1585		Leu	Leu	Arg	Pro 1590	Glu	Lys	Asp
Gly	Glu 1595	Ala	Thr	Gly	Val	Asp 1600	Ala	Ile	Cys	Thr	His 1605	Arg	Pro	Asp
Pro	Thr 1610	Gly	Pro	Gly	Leu	Asp 1615	Arg	Glu	Gln	Leu	Tyr 1620	Leu	Glu	Leu
Ser	Gln 1625	Leu	Thr	His	Ser	Ile 1630	Thr	Glu	Leu	Gly	Pro 1635	Tyr	Thr	Leu
Asp	Arg 1640	Asp	Ser	Leu	Tyr	Val 1645	Asn	Gly	Phe	Thr	His 1650	Arg	Ser	Ser
Val	Pro 1655	Thr	Thr	Ser	Thr	Gly 1660	Val	Val	Ser	Glu	Glu 1665	Pro	Phe	Thr
Leu	Asn 1670	Phe	Thr	Ile	Asn	Asn 1675	Leu	Arg	Tyr	Met	Ala 1680	Asp	Met	Gly
Gln	Pro 1685	Gly	Ser	Leu	Lys	Phe 1690		Ile	Thr	Asp	Asn 1695	Val	Met	Lys
His	Leu 1700	Leu	Ser	Pro	Leu	Phe 1705	Gln	Arg	Ser	Ser	Leu 1710	Gly	Ala	Arg
Tyr	Thr 1715	Gly	Cys	Arg	Val	Ile 1720	Ala	Leu	Arg	Ser	Val 1725	Lys	Asn	Gly
Ala	Glu 1730	Thr	Arg	Val	Asp	Leu 1735	Leu	Cys	Thr	Tyr	Leu 1740	Gln	Pro	Leu
Ser	Gly 1745	Pro	Gly	Leu	Pro	Ile 1750	Lys	Gln	Val	Phe	His 1755	Glu	Leu	Ser
Gln	Gln 1760		His	Gly	Ile	Thr 1765	Arg	Leu	Gly	Pro	Tyr 1770	Ser	Leu	Asp
Lys	Asp 1775	Ser	Leu	Tyr	Leu	Asn 1780	Gly	Tyr	Asn	Glu	Pro 1785	Gly	Leu	Asp
Glu	Pro 1790	Pro	Thr	Thr	Pro	Lys 1795		Ala	Thr	Thr	Phe 1800		Pro	Pro

Leu	Ser 1805	Glu	Ala	Thr	Thr	Ala 1810	Met	Gly	Tyr	His	Leu 1815	Lys	Thr	Leu
Thr	Leu 1820	Asn	Phe	Thr	Ile	Ser 1825	Asn	Leu	Gln	Tyr	Ser 1830	Pro	Asp	Met
Gly	Lys 1835	Gly	Ser	Ala	Thr	Phe 1840	Asn	Ser	Thr	Glu	Gly 1845	Val	Leu	Gln
His	Leu 1850	Leu	Arg	Pro	Leu	Phe 1855	Gln	Lys	Ser	Ser	Met 1860	Gly	Pro	Phe
Tyr	Leu 1865	Gly	Cys	Gln	Leu	Ile 1870	Ser	Leu	Arg	Pro	Glu 1875	Lys	Asp	Gly
Ala	Ala 1880	Thr	Gly	Val	Asp	Thr 1885	Thr	Cys	Thr	Tyr	His 1890	Pro	Asp	Pro
Val	Gly 1895	Pro	Gly	Leu	Asp	Ile 1900	Gln	Gln	Leu	Tyr	Trp 1905	Glu	Leu	Ser
Gln	Leu 1910	Thr	His	Gly	Val	Thr 1915	Gln	Leu	Gly	Phe	Tyr 1920	Val	Leu	Asp
Arg	Asp 1925	Ser	Leu	Phe	Ile	Asn 1930	Gly	Tyr	Ala	Pro	Gln 1935	Asn	Leu	Ser
Ile	Arg 1940	Gly	Glu	Tyr	Gln	Ile 1945	Asn	Phe	His	Ile	Val 1950	Asn	Trp	Asn
Leu	Ser 1955	Asn	Pro	Asp	Pro	Thr 1960	Ser	Ser	Glu	Tyr	Ile 1965	Thr	Leu	Leu
Arg	Asp 1970	Ile	Gln	Asp	Lys	Val 1975	Thr	Thr	Leu	Tyr	Lys 1980	Gly	Ser	Gln
Leu	His 1985	Asp	Thr	Phe	Arg	Phe 1990	Cys	Leu	Val	Thr	Asn 1995	Leu	Thr	Met
Asp	Ser 2000	Val	Leu	Val	Thr	Val 2005	Lys	Ala	Leu	Phe	Ser 2010	Ser	Asn	Leu
Asp	Pro 2015	Ser	Leu	Val	Glu	Gln 2020	Val	Phe	Leu	Asp	Lys 2025	Thr	Leu	Asn
Ala	Ser 2030	Phe	His	Trp	Leu	Gly 2035	Ser	Thr	Tyr	Gln	Leu 2040		Asp	I1e
His	Val 2045	Thr	Glu	Met	Glu	Ser 2050	Ser	Val	Tyr	Gln	Pro 2055	Thr	Ser	Ser
Ser	Ser 2060	Thr	Gln	His	Phe	Tyr 2065	Leu	Asn	Phe	Thr	Ile 2070	Thr	Asn	Leu
Pro	Tyr 2075	Ser	Gln	Asp	Lys	Ala 2080	Gln	Pro	Gly	Thr	Thr 2085	Asn	Tyr	Gln
Arg	Asn 2090		Arg	Asn	Ile	Glu 2095	Asp	Ala	Leu	Asn	Gln 2100	Leu	Phe	Arg

Asn Ser Ser Ile Lys Ser Tyr Phe Ser Asp Cys Gln Val Ser Thr 2105  $\phantom{0}$  2110  $\phantom{0}$  2115

Phe Arg Ser Val Pro Asn Arg His His Thr Gly Val Asp Ser Leu 2120 2125 2130

Cys Asn Phe Ser Pro Leu Ala Arg Arg Val Asp Arg Val Ala Ile 2135  $\phantom{\bigg|}2140\phantom{\bigg|}$  2145

Tyr Glu Glu Phe Leu Arg Met Thr Arg Asn Gly Thr Gln Leu Gln 2150 2155 2160

Asn Phe Thr Leu Asp Arg Ser Ser Val Leu Val Asp Gly Tyr Ser 2165  $\phantom{\bigg|}$  2170  $\phantom{\bigg|}$  2175

Pro Asn Arg Asn Glu Pro Leu Thr Gly Asn Ser Asp Leu Pro Phe 2180 2180

Trp Ala Val Ile Leu Ile Gly Leu Ala Gly Leu Leu Gly Leu Ile 2195 2200 2205

Lys Glu Gly Glu Tyr Asn Val Gln Gln Gln Cys Pro Gly Tyr Tyr 2225 2230 2235

Gln Ser His Leu Asp Leu Glu Asp Leu Gln 2240 2245

<210> 51

<211> 24

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 51

cagcagagac cagcacgagt actc

<210> 52

<211> 20

<212> DNA

<213> Artificial

24

<220> <223> Synthetic Primer <400> 52 20 tocactgoca tggctgagct <210> 53 <211> 22 <212> DNA <213> Artificial <220> <223> Synthetic Primer <400> 53 22 ccagcacage tetteccagg ac <210> 54 <211> 22 <212> DNA <213> Artificial <220> <223> Synthetic Primer <400> 54 22 ggaatggctg agctgacgtc tg <210> 55 <211> 21 <212> DNA <213> Artificial <220> <223> Synthetic Primer <400> 55

cttccc	agga caacctcaag g	21
<210>	56	
<211>	21	
	DNA	
<213>	Artificial	
<220>		
<223>	Synthetic Primer	
<400> gcagga	56 Lgag tgagccacgt g	21
<210>	57	
<211>	22	
<212>	DNA	
<213>	Artificial	
<220>		
<223>	Synthetic Primer	
<400>		22
gicaga	totg gtgacotoac tg	22
<210>	58	
<211>	21	
<212>	DNA	
<213>	Artificial	
<220>		
<223>	Synthetic Primer	
<400>		
gaggca	otgg aaagcocaga g	21
<210>	59	

<211>	25	
<212>	DNA	
<213>	Artificial	
<220>		
<223>	Synthetic Primer	
<400>		25
cigatg	gcat tatggaacac atcac	23
<210>	60	
<211>	22	
<212>	DNA	
<213>	Artificial	
<220>		
<223>	Synthetic Primer	
<400>	60 acga gagaccagtg ag	22
cccaga	acga gagaccageg ag	
<210>	61	
<211>	24	
<212>	DNA	
<213>	Artificial	
<220>		
<223>	Synthetic Primer	
<400>	61 ggcg atgaatgaac actg	24
googac	ggvg acganogano woog	
<210>	62	
<211>	22	
<212>	DNA	

## <213> Artificial <220> <223> Synthetic Primer <400> 62 cccagaacga gagaccagtg ag 22 <210> 63 <211> 35 <212> DNA <213> Artificial <220> <223> Synthetic Primer <400> 63 35 cgcggatccg aacactgcgt ttgctggctt tgatg <210> 64 <211> 23 <212> DNA <213> Artificial <220> <223> Synthetic Primer <400> 64 cctctgtgtg ctgcttcatt ggg 23 <210> 65 <211> 32 <212> DNA <213> Artificial

<220>							
<223>	Synt	hetic Prime	er				
<400> accggat	65 cca	tgggccacac	agageetgge	cc			32
<210>	66						
<211>	29						
<212>	DNA						
<213>	Arti	ficial					
<220>							
<223>	Synt	hetic Prime	er				
<400> tgtaago	66 etta	ggcagggagg	atggagtcc				29
	67						
	507						
<212>	DNA						
<213>	Homo	sapien					
	67 gat	cgcatcacca	tcaccatcac	ggatccatgg	gccacacaga	gaatggaaat	60
ctcctga	tac	cattcacttt	caactttacc.	atcaccaacc	tgcattatga	ggaaaacatg	120
caacacc	ctg	gttccaggaa	gttcaacacc	acggagaggg	ttctgcaggg	tctgctcaag	180
cccttgt	tca	agaacaccag	tgttggccct	ctgtactctg	gctgcagact	gaccttgctc	240
agacctg	gaga	agcatgaggc	agccactgga	gtggacacca	tetgtaceca	ccgcgttgat	300
cccatcg	gac	ctggactgga	cagagagegg	ctatactggg	agetgageca	gctgaccaac	360
agcatca	cag	agetgggace	ctacaccctg	gacagggaca	gtetetatgt	caatggette	420
aaccctc	gga	getetgtgee	aaccaccagc	actcctggga	cctccacagt	gcacctggca	480
acctctg	gga	ctccatcctc	cctgcct				507

<210> 68

```
<211> 169
```

<212> PRT

<213> Homo sapiens

<400> 68

Met Arg Gly Ser His His His His His Gly Ser Met Gly His Thr 1  $\phantom{\bigg|}$  5  $\phantom{\bigg|}$  10  $\phantom{\bigg|}$  15

Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr 20  $\phantom{000}$  25  $\phantom{000}$  30

Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe  $35 \hspace{1cm} 40 \hspace{1cm} 45 \hspace{1cm}$ 

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys 50 55 60

Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu 65 70 75 80

Arg Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr 85 90 95

His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr 100 105 110

Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr 115 \$120\$

Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser 130  $$135\$ 

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala 145  $\phantom{\bigg|}$  150  $\phantom{\bigg|}$  150  $\phantom{\bigg|}$  155  $\phantom{\bigg|}$  160

Thr Ser Gly Thr Pro Ser Ser Leu Pro 165

<210> 69

<211> 909

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> (1)..(909)

<223> Any "X" = any amino acid

<400> 69

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser 1  $\phantom{\bigg|}$  5  $\phantom{\bigg|}$  10  $\phantom{\bigg|}$  15

Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys 20 25 30

Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro  $35 \hspace{1cm} 40 \hspace{1cm} 45$ 

Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp 65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro 85 90 95

Thr Thr Ser Ile Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly 100 105 110

Thr Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Ile 115 120 125

Pro Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn 130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser  $195 \hspace{1.5cm} 200 \hspace{1.5cm} 205 \hspace{1.5cm}$ 

Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr 210 215 220

Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr 245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser 260 265 270

Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu Ile Pro Phe 275 280 285

Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn Met His 295 His Pro Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly 310 315 Leu Leu Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser 330 Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met Pro Phe Thr Leu Asn Phe 440 Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu 515 520 Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu Leu 535 Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr 545 550 His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val 565 His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His Thr Ala 580 585 590

Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn

595 600 605 Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Cys Leu Val Pro Cys Ser Arg Asn Thr Asn Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Xaa Glu Lys Xaa Xaa Ala Ala Thr Xaa Val Asp Xaa Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Val Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Gly Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Leu Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Ile Ser Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His His Leu Asn Pro Gln Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu Ser Gln Val Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu Thr Thr Ser 870 Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser 885 890 Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Ile 900 905

```
<210> 70
```

<211> 525

<212> PRT

<213> Homo sapiens

<400> 70

Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu 1  $\phantom{\bigg|}$  10  $\phantom{\bigg|}$  15

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala 20 25 30

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn 35 40 45

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr 50 55 60

Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu 65  $\phantom{000}70\phantom{000}70\phantom{000}75\phantom{000}$  80

Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr 85 90 95

Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser 100 105 110

Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Val Pro Phe Thr Leu 115 120 125

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Ala Met Arg His Pro 130 135 140

Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu 145  $\phantom{\bigg|}$  150  $\phantom{\bigg|}$  150  $\phantom{\bigg|}$  150  $\phantom{\bigg|}$  160

Arg Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly Cys \$165\$ \$170\$ \$175\$

Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Arg Val $180 \\ 180 \\ 185 \\ 190 \\$ 

Asp Ala Ala Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp 195 200 205

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr 210 220

Glu Leu Gly Pro Tyr Thr Leu Asp Arg Val Ser Leu Tyr Val Asn Gly 225 230 235

Phe Asn Pro Arg Ser Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser 245 250 255

Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His  $260 \hspace{1.5cm} 265 \hspace{1.5cm} 265 \hspace{1.5cm} 270 \hspace{1.5cm}$ 

Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile 275 280 285

Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys 290 295 300

Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe 305 \$310\$

Lys Asn Thr Ser Ile Gly Pro Leu Tyr Ser Ser Cys Arg Leu Thr Leu 325 330 335

Leu Arg Pro Glu Lys Asp Lys Ala Ala Thr Arg Val Asp Ala Ile Cys 340 345 350

Thr His His Pro Asp Pro Gln Ser Pro Gly Leu Asn Arg Glu Gln Leu 355 360 365

Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro 370 375 380

Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asp Gly Phe Thr His Trp 385  $\phantom{\bigg|}390\phantom{\bigg|}390\phantom{\bigg|}395\phantom{\bigg|}$ 

Ser Pro Ile Pro Thr Thr Ser Thr Pro Gly Thr Ser Ile Val Asn Leu  $405 \hspace{1.5cm} 410 \hspace{1.5cm} 410 \hspace{1.5cm} 415 \hspace{1.5cm}$ 

Gly Thr Ser Gly Ile Pro Pro Ser Leu Pro Glu Thr Thr Ala Thr Gly 420 425 430

Pro Leu Leu Ile Pro Phe Thr Pro Asn Phe Thr Ile Thr Asn Leu Gln 435  $\phantom{0}440$   $\phantom{0}445$ 

Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met 450 455 460

Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser 465 470 475 480

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu 485 490 495

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro 500 505 510

<210> 71

<211> 594

<212> PRT

## <213> Homo sapiens

<400> 71

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Asp Gly Val Ala Thr Arg Val Asp Ala Ile Cys Thr His Arg Pro  $35 \hspace{1cm} 40 \hspace{1cm} 45$ 

Asp Pro Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp 65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro95 90 95

Thr Thr Ser Thr Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu  $100 \\ 105 \\ 110$ 

Thr Pro Ser Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp 130 135 140

Met His Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 155 160

Gln Gly Leu Leu Met Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala 180 185 190

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Ser Glu 195  $\phantom{\bigg|}200\phantom{\bigg|}205\phantom{\bigg|}$ 

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 215 220

Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Ser Gly Val Leu Cys Pro Pro Pro Ser \$245\$ \$250\$ \$255\$

Ile Leu Gly Ile Phe Thr Val Gln Pro Glu Thr Phe Glu Thr Pro Ser 260 265 270

Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu Pro Phe Thr 275 280 285

Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp Met His Arg 295 Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 310 315 Leu Thr Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly 330 Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly 535 Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His 545 Trp Ile Pro Val Pro Thr Ser Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala Gly

585

590

Pro Leu

<210> 72

<211> 424

<212> PRT

<213> Homo sapiens

<400> 72

Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg 1  $\phantom{\bigg|}$  5  $\phantom{\bigg|}$  10  $\phantom{\bigg|}$  15

Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp 35 40 45

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr 50 55 60

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr Ser 65  $\phantom{000}70\phantom{000}75\phantom{000}$  75

Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr 85 90 95

Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu  $100 \hspace{1.5cm} 105 \hspace{1.5cm} 105 \hspace{1.5cm} 110 \hspace{1.5cm}$ 

Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Met Glu Arg 130 135 140

Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly 145 150 155

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp 165 170 175

Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp Glu Leu Ser Gln 195 200 205

Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp 210  $\phantom{-}215\phantom{+}220\phantom{+}$ 

Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro Thr Thr 225 230 235 240

Ser Thr Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu Thr Pro 245  $\phantom{000}250$   $\phantom{000}255$ 

Ser Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu Pro Phe 260  $\phantom{0000}265$   $\phantom{00000}265$ 

Thr Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp Met His 275 280 285

Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly 290 295 300

Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser 305 310 315

Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr 325 330 335

Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly 340 345 350

Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser 355 360 365

Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val 370 375 380

Asn Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly 385 \$390\$

Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro 405 410 415

Gly His Thr Ala Pro Val Pro Leu 420

<210> 73

<211> 286

<212> PRT

<213> Homo sapiens

<400> 73

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 1  $\phantom{\bigg|}$  5  $\phantom{\bigg|}$  10  $\phantom{\bigg|}$  15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu \$20\$

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu  $35 \hspace{1.5cm} 40 \hspace{1.5cm} 45$ 

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp 65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro 85 90 95

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly

Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Val 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp  $130 \ \ 135 \ \ 140$ 

Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 \$150\$ 150 \$155\$

Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala  $180 \,$ 

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn 195  $\phantom{\bigg|}200\phantom{\bigg|}$  205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr 210 215 220

Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr 245 250 255

Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser 260 265 270

Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile Pro Phe 275 280 285

<210> 74

<211> 286

<212> PRT

<213> Homo sapiens

<400> 74

Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser 1  $\phantom{-}$  5  $\phantom{-}$  10  $\phantom{-}$  15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys

<213> Homo sapiens

30 25 Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp 135 Met His Arg Pro Gly Ser Arg Lys Phe Asn Ala Thr Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe <210> 75 <211> 286 <212> PRT

<400> 75

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 1  $\phantom{\bigg|}$  5  $\phantom{\bigg|}$  10  $\phantom{\bigg|}$  15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu  $35 \hspace{1cm} 40 \hspace{1cm} 45$ 

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp 65  $\phantom{000}70\phantom{000}75\phantom{000}$  75 80

Arg Gly Ser Leu Tyr Val Asn Gly Phe Ser Arg Gln Ser Ser Met Thr  $85 \hspace{0.5cm} 90 \hspace{0.5cm} 95 \hspace{0.5cm}$ 

Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg  $100 \hspace{1.5cm} 105 \hspace{1.5cm} 110$ 

Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn 130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Asn Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu \$165\$

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Lys Pro Glu Lys Asp Gly Ala 180 185 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 215 220

His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 225 230 235

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala Pro Thr Ser Thr  $245 \hspace{1cm} 250 \hspace{1cm} 255$ 

Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser  $260 \\ 265 \\ 270$ 

Leu Pro Ser Pro Thr Thr Ala Val Pro Leu Leu Ile Pro Phe 275 280 285 <210> 76

<211> 286

<212> PRT

<213> Homo sapiens

<400> 76

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser 1  $\phantom{\bigg|}$  5  $\phantom{\bigg|}$  10  $\phantom{\bigg|}$  15

Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu 20 25 30

Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro 35 40 45

Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu 50 55 60

Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp 65 70 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu 85 90 95

Thr Thr Ser Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly 100 105 110

Thr Pro Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Ile 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn 130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu 145 \$150\$

Gln Gly Leu Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu  $165 \hspace{1cm} 170 \hspace{1cm} 175 \hspace{1cm}$ 

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala  $180\,$ 

Ala Thr Arg Val Asp Ala Val Cys Thr Gln Arg Pro Asp Pro Lys Ser 195 200 205

Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr 210 215 220

His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Leu 225 230 235 240

Tyr Val Asn Gly Leu Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr 245 250 255

Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe 275 280 285

<210> 77

<211> 288

<212> PRT

<213> Homo sapiens

<400> 77

Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Ser Lys Asn Ser Ser 1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu 20 25 30

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro  $35 \hspace{1cm} 40 \hspace{1cm} 45$ 

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp 65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly 100 105 110

Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile 115 120 125

Pro Phe Thr Val Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn 130 135 140

Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala  $180\,$ 

Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr

210 215 220 Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr 250 Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser 265 Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu Ile Pro Phe 280 <210> 78 <211> 597 <212> PRT <213> Homo sapiens <400> 78 Glu Arg Val Leu His Gly Leu Leu Thr Pro Leu Phe Lys Asn Thr Arg Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu 165 170

Tyr Ser Gly Cys Arg Leu Thr Leu Phe Lys Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr 230 Val Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro 250 Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn 280 Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser Leu Pro Arg Pro Ile 420 425 Val Pro Gly Pro Leu Leu Ile Pro Phe Thr Ile Asn Phe Thr Ile Thr 440 Asn Leu Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe 450 455 Asn Ile Met Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Leu Phe Lys 470 Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Ile Ser Leu

490

Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr  $500 \hspace{1.5cm} 505 \hspace{1.5cm} 510$ 

His His Leu Asn Pro Gln Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr 515 520 525

Trp Gln Leu Ser Gln Met Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr 530 535 540

Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser 545 550 555 560

Ser Gly Leu Thr Thr Ser Thr Pro Trp Thr Ser Thr Val Asp Leu Gly 565 570 575

Leu Leu Ile Pro Phe 595

<210> 79

<211> 420

<212> PRT

<213> Homo sapiens

<400> 79

Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys

Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn  $20 \hspace{1.5cm} 25 \hspace{1.5cm} 30$ 

Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser  $35 \hspace{1cm} 40 \hspace{1cm} 45$ 

Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg 50 55 60

Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr 65 70 75 80

Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr 85 90 95

Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met 115 120 125

Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Ser Val Leu Gln

	130					135					140				
Gly 145	Leu	Leu	Thr	Pro	Leu 150	Phe	Lys	Asn	Ser	Ser 155	Val	Gly	Pro	Leu	Tyr 160
Ser	Gly	Cys	Arg	Leu 165	Ile	Ser	Leu	Arg	Ser 170	Glu	Lys	Asp	Gly	Ala 175	Ala
Thr	Gly	Val	Asp 180	Ala	Ile	Cys	Thr	His 185	His	Leu	Asn	Pro	Gln 190	Ser	Pro
Gly	Leu	Asp 195	Arg	Glu	Gln	Leu	Tyr 200	Trp	Gln	Leu	Ser	G1n 205	Met	Thr	Asn
Gly	Ile 210	Lys	Glu	Leu	Gly	Pro 215	Tyr	Thr	Leu	Asp	Arg 220	Asp	Ser	Leu	Tyr
Val 225	Asn	Gly	Phe	Thr	His 230	Arg	Ser	Leu	Gly	Leu 235	Thr	Thr	Ser	Thr	Pro 240
Trp	Thr	Ser	Thr	Val 245	Asp	Leu	Gly	Thr	Ser 250	Gly	Thr	Pro	Ser	Pro 255	Val
Pro	Ser	Pro	Thr 260	Thr	Ala	Gly	Pro	Leu 265	Leu	I1e	Pro	Phe	Thr 270	Leu	Asn
Phe	Thr	Ile 275	Thr	Asn	Leu	G1n	Tyr 280	Glu	Glu	Asn	Met	Gly 285	His	Pro	Gly
Ser	Arg 290	Lys	Phe	Asn	Ile	Met 295	Glu	Arg	Val	Leu	Gln 300	Gly	Leu	Leu	Arg
Pro 305	Val	Phe	Lys	Asn	Thr 310	Ser	Val	Gly	Pro	Leu 315	Tyr	Ser	Gly	Cys	Arg 320
Leu	Thr	Leu	Leu	Arg 325	Pro	Lys	Lys	Asp	Gly 330	Ala	Ala	Thr	Lys	Val 335	Asp
Ala	Ile	Cys	Thr 340	Tyr	Arg	Pro	Asp	Pro 345	Lys	Ser	Pro	Gly	Leu 350	Asp	Arg
Glu	Gln	Leu 355	Tyr	Trp	Glu	Leu	Ser 360	Gln	Leu	Thr	His	Ser 365	Ile	Thr	Glu
Leu	Gly 370	Pro	Tyr	Thr	Leu	Asp 375	Arg	Asp	Ser	Leu	Tyr 380	Val	Asn	Gly	Phe
Thr 385	Gln	Arg	Ser	Ser	Val 390	Pro	Thr	Thr	Ser	Ile 395	Pro	Gly	Thr	Pro	Thr 400
Val	Asp	Leu	Gly	Thr 405	Ser	G1y	Thr	Pro	Val 410	Ser	Lys	Pro	Gly	Pro 415	Ser
Ala	Ala	Ser	Pro 420												
<210	)> I	30													

```
<211> 479
```

<212> PRT

<213> Homo sapiens

<400> 80

Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr 20 25 30

His Gln Ser Ser Val Ser Thr Thr Ser Thr Pro Gly Thr Ser Thr Val 35 40 45

Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser Leu Ser Ser Pro Thr Ile 50 55 60

Met Ala Ala Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile 65 70 75 80

Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His Pro Gly Ser Arg Lys 85 90 95

Phe Asn Ile Met Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe 100 105 110

Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu 115 120 125

Leu Arg Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys 130 135 140

Ser His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu 145  $\phantom{\bigg|}$  150  $\phantom{\bigg|}$  150  $\phantom{\bigg|}$  155  $\phantom{\bigg|}$  160

Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro  $165 \\ 170 \\ 175$ 

Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg 180 185 190

Ser Ser Val Ala Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu 195 200 205

Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala Val $210 \hspace{1.5cm} 225 \hspace{1.5cm} 225$ 

Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys 225 230 230 240

Tyr Glu Glu Asp Met His Cys Pro Gly Ser Arg Lys Phe Asn Thr Thr 245 250 255

Glu Arg Val Leu Gln Ser Leu Phe Gly Pro Met Phe Lys Asn Thr Ser

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Ser Glu 275 280 285

Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu 290 300	
Asp Pro Lys Ser Leu Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu 305 310 315	
Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp 325 330 335	
Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr Ser Ala Pro $$340$$	
Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly 355 360 365	
Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu Leu Val 370 380	
Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp 385 390 395 400	
Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu $$405$$ $$410$$	
Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu 425 430	
Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala 435 440	
Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser 450 460	
Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu 465 470 475	
<210> 81	
<211> 5465	
<212> DNA	
<213> Homo sapiens	
<400> 81	
cagagagegt tgagetggga acagtgacaa gtgettatea agtteettea eteteaacae	
ggttgacaag aactgatggc attatggaac acatcacaaa aatacccaat gaagcagcac	
acagaggtac cataagacca gtcaaaggcc ctcagacatc cacttcgcct gccagtccta	
aaggactaca cacaggaggg acaaaaagaa tggagaccac caccacagct ttgaagacca	

ccaccacage tttgaagace acttccagag ccaccttgae caccagtgte tatactccca 300 ctttgggaac actgactccc ctcaatgcat caaggcaaat ggccagcaca atcetcacag 360 aaatgatgat cacaacccca tatgttttcc ctgatgttcc agaaacgaca tcctcattgg 420 ctaccagcet gggagcagaa accagcacag ctetteceag gacaacceca tetgttetea 480 atagagaatc agagaccaca geeteactgg tetetegtte tggggcagag agaagteegg 540 600 ttattcaaac tctagatgtt tcttctagtg agccagatac aacagcttca tgggttatcc atcctgcaga gaccatccca actgtttcca agacaacccc caattttttc cacagtgaat 660 tagacactgt atcttccaca gccaccagtc atggggcaga cgtcagctca gccattccaa 720 caaatatoto acctagtgaa ctagatgcac tgaccocact ggtcactatt tcggggacag 780 840 atactagtac aacattccca acactgacta agtccccaca tgaaacagag acaagaacca catggotoac toatectgca gagaccagot caactattoo cagaacaato cocaattitt 900 ctcatcatga atcagatgcc acaccttcaa tagccaccag tcctggggca gaaaccagtt 960 cagetattee aattatgact gteteacetg gtgeagaaga tetggtgace teacaggtea 1020 ctagttctgg gacagacaga aatatgacta ttccaacttt gactctttct cctggtgaac 1080 1140 caaagacgat agceteatta gteacceate etgaagcaca gacaagtteg gecattecaa 1200 ettcaactat etegeetget gtatcaeggt tggtgaeete aatggteace agtttggegg caaagacaag tacaactaat cgagctctga caaacteece tggtgaacca gctacaacag 1260 tttcattggt cacgcatect gcacagacca gcccaacagt tccctggaca acttccattt 1320 ttttccatag taaatcagac accacacett caatgaceae cagtcatggg geagaateea 1380 1440 gttcagctgt tccaactcca actgtttcaa ctgaggtacc aggagtagtg acccctttgg teaceagtte tagggeagtg atcagtaeaa etatteeaat tetgaetett teteetggtg 1500 1560 aaccagagac cacaccttca atggccacca gtcatgggga agaagccagt tctgctattc 1620 caactccaac tgtttcacct ggggtaccag gagtggtgac ctctctggtc actagttcta 1680 gggcagtgac tagtacaact attccaattc tgactttttc tcttggtgaa ccagagacca caccttcaat ggccaccagt catgggacag aagctggctc agctgttcca actgttttac 1740 ctgaggtacc aggaatggtg acctctctgg ttgctagttc tagggcagta accagtacaa 1800 1860 ctcttccaac tctgactctt tctcctggtg aaccagagac cacaccttca atggccacca 1920 gtcatggggc agaagccagc tcaactgttc caactgtttc acctgaggta ccaggagtgg tgacctetet ggtcactagt tetagtggag taaacagtac aagtatteca actetgatte 1980 tttctcctgg tgaactagaa accacactt caatggccac cagtcatggg gcagaagcca 2040 2100 gctcagctgt tccaactcca actgtttcac ctggggtatc aggagtggtg acccctctgg tcactagttc cagggcagtg accagtacaa ctattccaat tctaactctt tcttctagtg 2160 2220 agccagagac cacaccttca atggccacca gtcatggggt agaagccagc tcagctgttc taactgtttc acctgaggta ccaggaatgg tgacctctct ggtcactagt tctagagcag 2280 2340 taaccagtac aactattcca actetgacta tttettetga tgaaccagag accacaactt cattggtcac ccattctgag gcaaagatga tttcagccat tccaacttta gctgtctccc 2400 ctactgtaca agggctggtg acttcactgg tcactagttc tgggtcagag accagtgcgt 2460 tttcaaatct aactgttgcc tcaagtcaac cagagaccat agactcatgg gtcgctcatc 2520 2580 ctgggacaga agcaagttct gttgttccaa ctttgactgt ctccactggt gagccgttta caaatatete attggteace cateetgeag agagtagete aactetteee aggacaacet 2640 caaggttttc ccacagtgaa ttagacacta tgccttctac agtcaccagt cctgaggcag 2700 2760 aatocagete agccatttca actactattt cacctggtat accaggtgtg ctgacatcac 2820 tggtcactag ctctgggaga gacatcagtg caacttttcc aacagtgcct gagtccccac 2880 atgaatcaga ggcaacagcc tcatgggtta ctcatcctgc agtcaccagc acaacagttc ccaggacaac ccctaattat teteatagtg aaccagacac cacaccatea atagccacca 2940 3000 gtcctggggc agaagccact tcagattttc caacaataac tgtctcacct gatgtaccag atatggtaac ctcacaggtc actagttctg ggacagacac cagtataact attccaactc 3060 tgactettte ttetggtgag ecagagacca caaceteatt tateacetat tetgagacae 3120 acacaagttc agecattcca actotocotg totococtgg tgcatcaaag atgotgacct 3180 cactggtcat cagttctggg acagacagca ctacaacttt cccaacactg acggagaccc 3240 catatgaacc agagacaaca gccatacagc tcattcatcc tgcagagacc aacacaatgg 3300 ttcccaagac aactcccaag ttttcccata gtaagtcaga caccacactc ccagtagcca 3360 tcaccagtcc tgggccagaa gccagttcag ctgtttcaac gacaactatc tcacctgata 3420 3480 tgtcagatct ggtgacctca ctggtcccta gttctgggac agacaccagt acaaccttcc 3540 caacattgag tgagacccca tatgaaccag agactacagt cacgtggctc actcatcctg cagaaaccag cacaacggtt totgggacaa ttoccaactt ttoccatagg ggatcagaca 3600 ctgcaccete aatggtcace agteetggag tagacacgag gtcaggtgtt ccaactacaa 3660 3720 ccatcccacc cagtatacca ggggtagtga cctcacaggt cactagttet gcaacagaca ctagtacage tattccaact ttgactcctt ctcctggtga accagagace acagcetcat 3780 cagotaccca tootgggaca cagactggot toactgttoo aattoggact gttocotota 3840 gtgagccaga tacaatggct tcctgggtca ctcatcctcc acagaccagc acacctgttt 3900 ccagaacaac ctccagtttt tcccatagta gtccagatgc cacacctgta atggccacca 3960 4020 gtcctaggac agaagccagt tcagctgtac tgacaacaat ctcacctggt gcaccagaga tggtgacttc acagatcact agttctgggg cagcaaccag tacaactgtt ccaactttga 4080 4140 ctcattctcc tggtatgcca gagaccacag ccttattgag cacccatccc agaacaggga caagtaaaac atttoctgot toaactgtgt ttootcaagt atcagagacc acagcotcac 4200 4260 teaceattag acetggtgca gagaetagea cagetetece aacteagaca acateetete 4320 tetteaccet acttgtaact ggaaccagea gagttgatet aagtecaact getteacetg gtgtttctgc aaaaacagcc ccactttcca cccatccagg gacagagacc agcacaatga 4380 ttocaactto aactotttoo ottggtttac tagagactac aggottactg gocaccagot 4440 cttcagcaga gaccagcacg agtactctaa ctctgactgt ttcccctgct gtctctgggc 4500 tttccagtgc ctctataaca actgataagc cccaaactgt gacctcctgg aacacagaaa 4560 4620 ceteaceate tgtaacttea gttggacece cagaatttte caggaetgte acaggeacea ctatgacett gataccatca gagatgecaa caccacctaa aaccagteat ggagaaggag 4680 4740 tgagtccaac cactatcttg agaactacaa tggttgaagc cactaattta gctaccacag 4800 gttecagtee cactgtggee aagacaacaa ccacettcaa tacactgget ggaageetet ttactcctct gaccacacct gggatgtcca ccttggcctc tgagagtgtg acctcaagaa 4860 caagttataa ccatcggtcc tggatctcca ccaccagcag ttataaccgt cggtactgga 4920 cccctgccac cagcactcca gtgacttcta cattetecec agggatttcc acatectcca 4980 tocccagete cacageagee acagteceat teatggtgee atteaceete aaetteacea 5040 tcaccaacct gcagtacgag gaggacatgc ggcaccctgg ttccaggaag ttcaacgcca cagagagaga actgcagggt ctgctcaaac ccttgttcag gaatagcagt ctggaatacc 5160 totatteagg ctgcagacta gcctcactca ggccagagaa ggatagctca gccatggcag 5220 tggatgccat ctgcacacat cgccctgacc ctgaagacct cggactggac agagagcgac 5280 5340 tgtactggga gctgagcaat ctgacaaatg gcatccagga gctgggcccc tacaccctgg accggaacag tototatgto aatggtttca cocatogaag ototatgcoc accaccagca 5400 ctcctgggac ctccacagtg gatgtgggaa cctcagggac tccatcctcc agccccagcc 5460 5465 ccacg

<210> 82

<211> 1821

<212> PRT

<213> Homo sapiens

<400> 82

Leu Ser Thr Arg Leu Thr Arg Thr Asp Gly Ile Met Glu His Ile Thr  $20 \hspace{1cm} 25 \hspace{1cm} 30 \hspace{1cm}$ 

Lys Ile Pro Asn Glu Ala Ala His Arg Gly Thr Ile Arg Pro Val Lys  $35 \hspace{1.5cm} 40 \hspace{1.5cm} 45$ 

Gly Pro Gln Thr Ser Thr Ser Pro Ala Ser Pro Lys Gly Leu His Thr 50 60

Gly Gly Thr Lys Arg Met Glu Thr Thr Thr Thr Ala Leu Lys Thr Thr 65  $\phantom{000}70\phantom{000}70\phantom{000}70\phantom{000}70\phantom{0000}$ 

Thr Thr Ala Leu Lys Thr Thr Ser Arg Ala Thr Leu Thr Thr Ser Val85 90 95

Met Ala Ser Thr Ile Leu Thr Glu Met Met Ile Thr Thr Pro Tyr Val 115 120 125 Phe Pro Asp Val Pro Glu Thr Thr Ser Ser Leu Ala Thr Ser Leu Gly

130 135 140

Ala Glu Thr Ser Thr Ala Leu Pro Arg Thr Thr Pro Ser Val Leu Asn 145 150 155 160

Arg Glu Ser Glu Thr Thr Ala Ser Leu Val Ser Arg Ser Gly Ala Glu 165 170 175

Arg Ser Pro Val Ile Gln Thr Leu Asp Val Ser Ser Ser Glu Pro Asp 180 185 190

Thr Thr Ala Ser Trp Val Ile His Pro Ala Glu Thr Ile Pro Thr Val 195 200 205

Ser Lys Thr Thr Pro Asn Phe Phe His Ser Glu Leu Asp Thr Val Ser 210 215 220

Ser Thr Ala Thr Ser His Gly Ala Asp Val Ser Ser Ala Ile Pro Thr 225 230 235

Asn Ile Ser Pro Ser Glu Leu Asp Ala Leu Thr Pro Leu Val Thr Ile

Ser Gly Thr Asp Thr Ser Thr Thr Phe Pro Thr Leu Thr Lys Ser Pro 265

His Glu Thr Glu Thr Arg Thr Thr Trp Leu Thr His Pro Ala Glu Thr 280

245

260

255

Thr Thr Ile Pro Ile Leu Thr Phe Ser Leu Gly Glu Pro Glu Thr Thr

545

Thr Val Leu Pro Glu Val Pro Gly Met Val Thr Ser Leu Val Ala Ser 580 585 590

Ser Arg Ala Val Thr Ser Thr Thr Leu Pro Thr Leu Thr Leu Ser Pro 595 600 605

Gly Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Ala Glu 610  $\,$  615  $\,$  620

Ala Ser Ser Thr Val Pro Thr Val Ser Pro Glu Val Pro Gly Val Val 625 630 635

Thr Ser Leu Val Thr Ser Ser Ser Gly Val Asn Ser Thr Ser Ile Pro645 650 655

Thr Leu Ile Leu Ser Pro Gly Glu Leu Glu Thr Thr Pro Ser Met Ala 660 665 670

Thr Ser His Gly Ala Glu Ala Ser Ser Ala Val Pro Thr Pro Thr Val 675 680 685

Ser Pro Gly Val Ser Gly Val Val Thr Pro Leu Val Thr Ser Ser Arg 690 695 700

Ala Val Thr Ser Thr Thr Ile Pro Ile Leu Thr Leu Ser Ser Glu 705  $\phantom{\bigg|}$  710  $\phantom{\bigg|}$  720

Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Val Glu Ala Ser 725 730 735

Ser Ala Val Leu Thr Val Ser Pro Glu Val Pro Gly Met Val Thr Ser 740 745 750

Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr Thr Ile Pro Thr Leu  $755 \hspace{1.5cm} 760 \hspace{1.5cm} 765$ 

Thr Ile Ser Ser Asp Glu Pro Glu Thr Thr Thr Ser Leu Val Thr His 770 785

Ser Glu Ala Lys Met Ile Ser Ala Ile Pro Thr Leu Ala Val Ser Pro 785 790 795 800

Thr Val Gln Gly Leu Val Thr Ser Leu Val Thr Ser Ser Gly Ser Glu 805 810 815

Thr Ser Ala Phe Ser Asn Leu Thr Val Ala Ser Ser Gln Pro Glu Thr 820 825 830

Ile Asp Ser Trp Val Ala His Pro Gly Thr Glu Ala Ser Ser Val Val 835 840 845

Pro Thr Leu Thr Val Ser Thr Gly Glu Pro Phe Thr Asn Ile Ser Leu 850 855

Val Thr His Pro Ala Glu Ser Ser Ser Thr Leu Pro Arg Thr Thr Ser 865 870 875 880

- Arg Phe Ser His Ser Glu Leu Asp Thr Met Pro Ser Thr Val Thr Ser 885 890 895
- Pro Glu Ala Glu Ser Ser Ser Ala Ile Ser Thr Thr Ile Ser Pro Gly
- Ile Pro Gly Val Leu Thr Ser Leu Val Thr Ser Ser Gly Arg Asp Ile
- Ser Ala Thr Phe Pro Thr Val Pro Glu Ser Pro His Glu Ser Glu Ala 930 935 940
- Thr Ala Ser Trp Val Thr His Pro Ala Val Thr Ser Thr Thr Val Pro 945 950 950 955
- Arg Thr Thr Pro Asn Tyr Ser His Ser Glu Pro Asp Thr Thr Pro Ser 965 970 975
- Ile Ala Thr Ser Pro Gly Ala Glu Ala Thr Ser Asp Phe Pro Thr Ile 980 985 990
- Thr Val Ser Pro Asp Val Pro Asp Met Val Thr Ser Gln Val Thr Ser 995  $1000 \,$  1000  $1005 \,$
- Ser Gly Thr Asp Thr Ser Ile Thr Ile Pro Thr Leu Thr Leu Ser 1010 1015
- Ser Gly Glu Pro Glu Thr Thr Thr Ser Phe Ile Thr Tyr Ser Glu 1025 1030 1035
- Thr His Thr Ser Ser Ala Ile Pro Thr Leu Pro Val Ser Pro Gly 1040 1045
- Ala Ser Lys Met Leu Thr Ser Leu Val Ile Ser Ser Gly Thr Asp 1055  $\phantom{0}$  1060  $\phantom{0}$  1065

- Met Val Pro Arg Thr Thr Pro Lys Phe Ser His Ser Lys Ser Asp 1100 1110
- Thr Thr Leu Pro Val Ala Ile Thr Ser Pro Gly Pro Glu Ala Ser 1115 1120 1125
- Ser Ala Val Ser Thr Thr Thr Ile Ser Pro Asp Met Ser Asp Leu 1130 1135 1140
- Val Thr Ser Leu Val Pro Ser Ser Gly Thr Asp Thr Ser Thr Thr 1145 1150 1155
- Phe Pro Thr Leu Ser Glu Thr Pro Tyr Glu Pro Glu Thr Thr Ala 1160 1165 1170
- Thr Trp Leu Thr His Pro Ala Glu Thr Ser Thr Thr Val Ser Gly

	1175					1180					1185			
Thr	Ile 1190	Pro	Asn	Phe	Ser	His 1195	Arg	Gly	Ser	Asp	Thr 1200	Ala	Pro	Ser
Met	Val 1205	Thr	Ser	Pro	Gly	Val 1210	Asp	Thr	Arg	Ser	Gly 1215	Val	Pro	Thr
Thr	Thr 1220	Ile	Pro	Pro	Ser	Ile 1225	Pro	Gly	Val	Val	Thr 1230	Ser	Gln	Val
Thr	Ser 1235	Ser	Ala	Thr	Asp	Thr 1240	Ser	Thr	Ala	Ile	Pro 1245	Thr	Leu	Thr
Pro	Ser 1250	Pro	Gly	Glu	Pro	Glu 1255	Thr	Thr	Ala	Ser	Ser 1260	Ala	Thr	His
Pro	Gly 1265	Thr	G1n	Thr	Gly	Phe 1270	Thr	Val	Pro	Ile	Arg 1275	Thr	Val	Pro
Ser	Ser 1280	Glu	Pro	Asp	Thr	Met 1285	Ala	Ser	Trp	Val	Thr 1290	His	Pro	Pro
Gln	Thr 1295	Ser	Thr	Pro	Val	Ser 1300	Arg	Thr	Thr	Ser	Ser 1305	Phe	Ser	His
Ser	Ser 1310	Pro	Asp	Ala	Thr	Pro 1315	Val	Met	Ala	Thr	Ser 1320	Pro	Arg	Thr
Glu	Ala 1325	Ser	Ser	Ala	Val	Leu 1330		Thr	Ile	Ser	Pro 1335	Gly	Ala	Pro
Glu	Met 1340	Val	Thr	Ser	Gln	Ile 1345		Ser	Ser	Gly	Ala 1350		Thr	Ser
Thr	Thr 1355	Val	Pro	Thr	Leu	Thr 1360		Ser	Pro	Gly	Met 1365	Pro	Glu	Thr
Thr	Ala 1370	Leu	Leu	Ser	Thr	His 1375		Arg	Thr	Glu	Thr 1380		Lys	Thr
Phe	Pro 1385	Ala	Ser	Thr	Val	Phe 1390		Gln	Val	Ser	Glu 1395		Thr	Ala
Ser	Leu 1400		Ile	Arg	Pro	Gly 1405		Glu	Thr	Ser	Thr 1410	Ala	Leu	Pro
Thr	Gln 1415		Thr	Ser	Ser	Leu 1420		Thr	Leu	Leu	Val 1425		Gly	Thr
Ser	Arg 1430		Asp	Leu	Ser	Pro 1435		Ala	Ser	Pro	Gly 1440	Val	Ser	Ala
Lys	Thr 1445		Pro	Leu	Ser	Thr 1450	His	Pro	Gly	Thr	Glu 1455	Thr	Ser	Thr
Met	Ile 1460		Thr	Ser	Thr	Leu 1465		Leu	Gly	Leu	Leu 1470	Glu	Thr	Thr

Gly	Leu 1475	Leu	Ala	Thr	Ser	Ser 1480	Ser	Ala	Glu	Thr	Ser 1485	Thr	Ser	Thr
Leu	Thr 1490	Leu	Thr	Val	Ser	Pro 1495	Ala	Val	Ser	Gly	Leu 1500		Ser	Ala
Ser	Ile 1505	Thr	Thr	Asp	Lys	Pro 1510	Gln	Thr	Val	Thr	Ser 1515	Trp	Asn	Thr
Glu	Thr 1520	Ser	Pro	Ser	Val	Thr 1525	Ser	Val	Gly	Pro	Pro 1530	Glu	Phe	Ser
Arg	Thr 1535	Val	Thr	Gly	Thr	Thr 1540	Met	Thr	Leu	Ile	Pro 1545	Ser	Glu	Met
Pro	Thr 1550	Pro	Pro	Lys	Thr	Ser 1555	His	Gly	Glu	Gly	Val 1560	Ser	Pro	Thr
Thr	Ile 1565	Leu	Arg	Thr	Thr	Met 1570		Glu	Ala	Thr	Asn 1575	Leu	Ala	Thr
Thr	Gly 1580	Ser	Ser	Pro	Thr	Val 1585	Ala	Lys	Thr	Thr	Thr 1590	Thr	Phe	Asn
Thr	Leu 1595	Ala	Gly	Ser	Leu	Phe 1600		Pro	Leu	Thr	Thr 1605		Gly	Met
Ser	Thr 1610	Leu	Ala	Ser	Glu	Ser 1615	Val	Thr	Ser	Arg	Thr 1620	Ser	Tyr	Asn
His	Arg 1625	Ser	Trp	Ile	Ser	Thr 1630	Thr	Ser	Ser	Tyr	Asn 1635	Arg	Arg	Tyr
Trp	Thr 1640		Ala	Thr	Ser	Thr 1645	Pro	Val	Thr	Ser	Thr 1650		Ser	Pro
Gly	Ile 1655		Thr	Ser	Ser	Ile 1660		Ser	Ser	Thr	Ala 1665	Ala	Thr	Val
Pro	Phe 1670		Val	Pro	Phe	Thr 1675		Asn	Phe	Thr	Ile 1680		Asn	Leu
Gln	Tyr 1685		Glu	Asp	Met	Arg 1690		Pro	Gly	Ser	Arg 1695	Lys	Phe	Asn
Ala	Thr 1700		Arg	Glu	Leu	Gln 1705		Leu	Leu	Lys	Pro 1710	Leu	Phe	Arg
Asn	Ser 1715		Leu	Glu	Tyr	Leu 1720		Ser	Gly	Cys	Arg 1725		Ala	Ser
Leu	Arg 1730		Glu	Lys	Asp	Ser 1735		Ala	Met	Ala	Val 1740		Ala	Ile
Cys	Thr 1745		Arg	Pro	Asp	Pro 1750		Asp	Leu	Gly	Leu 1755		Arg	Glu
Arg	Leu 1760		Trp	Glu	Leu	Ser 1765		Leu	Thr	Asn	Gly 1770		Gln	Glu

Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly 1780 Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr Pro Gly Thr 1790 Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser Ser Pro 1805 Ser Pro Thr 1820 <210> 83 <211> 468 <212> DNA <213> Homo sapiens <400> 83 60 gecacaqtee catteatqqt qecatteace etcaacttea ecateaceaa ectgeagtae gaggaggaca tgcggcaccc tggttccagg aagttcaacg ccacagagag agaactgcag ggtetgetca aaccettgtt caggaatage agtetggaat acctetatte aggetgeaga 180 ctagecteae teaggecaga gaaggatage teagceatgg cagtggatge catetgeata 240 categocotg accetgaaga coteggactg gacagagage gactgtactg ggagetgage 300 360 aatetqacaa atqqcateca ggagetggge ecctacacce tggaceggaa cagtetetat 420 gtcaatggtt tcacccatcg aagststatg cccaccacca gcastsctgg gasstscasa gtggatgtgg gaacctcagg gactccatcc tccagcccca gccccacg 468 <210> 8.4 <211> 474 <212> DNA <213> Homo sapiens <400> 84 60 gctgctggcc ctctcctgat gccgttcacc ctcaacttca ccatcaccaa cctgcagtac gaggaggaca tgcgtcgcac tggctccagg aagttcaaca ccatggagag tgtcctgcag ggtctgctca agcccttgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga 180 ttqaccttqc tcaqqcccaa qaaaqatqqg gcagccactg gagtggatgc catctgcacc 240

aaactga	cca	atgacattga	agagetggge	ccctacaccc	tggacaggaa	cagtetetat	360
gtcaato	gtt	tcacccatca	gagctctgtg	tccaccacca	gcactcctgg	gacctccaca	420
gtggato	etca	gaacetcagg	gactccatcc	teceteteca	gccccacaat	tatg	474
<210>	85						
<211>	468						
<212>	DNA						
<213>	Homo	sapiens					
		1.1					
<400>	85						
		ctctcctggt	accattcacc	ctcaacttca	ccatcaccaa	cctgcagtat	60
ggggag	gaca	tgggtcaccc	tggctccagg	aagttcaaca	ccacagagag	ggtcctgcag	120
ggtctgd	ettg	gtcccatatt	caagaacacc	agtgttggcc	ctctgtactc	tggctgcaga	180
ctgacct	ctc	tcaggtctga	gaaggatgga	gcagccactg	gagtggatgc	catctgcatc	240
catcato	ettg	accccaaaag	ccctggactc	aacagagagc	ggctgtactg	ggagctgagc	300
caactga	acca	atggcatcaa	agagetggge	ccctacaccc	tggacaggaa	cagtctctat	360
gtcaatq	ggtt	tcacccatcg	gacctctgtg	cccaccacca	gcactcctgg	gacetecaca	420
gtggaco	ettg	gaacctcagg	gactccattc	teceteccaa	geceegca		468
<210>	86						
<211>	465						
<212>	DNA						
<213>	Homo	o sapiens					
<400>	86	eteteetaat	actattaace	ctcaacttca	ccatcaccaa	cctgaagtat	60
				aagttcaaca			120
							180
				agtgttggcc			
-				gcagccactg			240
caccgto	cttg	accccaaaag	ccctggactg	gacagagagc	agctatactg	ggagctgagc	300

caccgccttg accccaaaag ccctggactc aacagggagc agctgtactg ggagctaagc 300

cagetgaeca atggeatcaa agagetggge eectaeac	cc tggacaggaa cagtctctat 360
gtcaatggtt tcacccattg gatccetgtg cccaccage	ca gcactcctgg gacctccaca 420
gtggacettg ggtcagggac tecatectec etececage	cc ccaca 465
<210> 87	
<211> 468	
<212> DNA	
<213> Homo sapiens	
<400> 87	
gctgctggcc ctctcctggt gccattcacc ctcaactto	
gaggaggaca tgcatcaccc aggetecagg aagtteaac	
ggtctgcttg gtcccatgtt caagaacacc agtgtcgg	ec ttetgtacte tggetgeaga 180
ctgaccttgc tcaggtccga gaaggatgga gcagccact	tg gagtggatgc catctgcacc 240
caccegtettg accecaaaag ceetggagtg gacagggag	gc agctatactg ggagctgagc 300
cagetgacca atggeatcaa agagetgggt ceetacacc	cc tggacagaaa cagtctctat 360
gtcaatggtt tcacccatca gacctctgcg cccaacacc	ca gcacteetgg gaceteeaca 420
gtggacettg ggaceteagg gactecatee teceteee	ca gocotaca 468
<210> 88	
<211> 468	
<212> DNA	
<213> Homo sapiens	
<220>	
<221> misc feature	
<222> (1)(468)	
<223> All N's = any nucleotide	
AZZSZ AZZ W S - any independe	
<400> 88	
ncnnctgncc ctctcctgnt ncenttcacc ntcaacttr	na ccatcaccaa cetgcantan 60
gnggannaca tgcnncnccc nggntccagg aagttcaac	ca ccacngagng ngtnetgeag 120

<400> 90

ggtetgetiii	IIICCCITCITC	Caagaacacc	agiginggee	Cicigiacic	tygctycaga	100
ctgaccttgc	tcaggtccga	gaaggatgga	gcagccactg	gagtggatgc	catctgcacc	240
caccgtcttg	accccaaaag	ccctggagtg	gacagggagc	agctatactg	ggagctgagc	300
cagctgacca	atggcatcaa	agagctgggt	ccctacaccc	tggacagaaa	cagtctctat	360
gtcaatggtt	tcacccatca	gacctctgcg	cccaacacca	gcactcctgg	gacctccaca	420
gtggaccttg	ggacctcagg	gactccatcc	tecetececa	gccctaca		468
<210> 89						
<211> 468						
<212> DNA						
<213> Hom	o sapiens					
<400> 89						
	ctctcctggt	gccattcacc	ctcaacttca	ccatcaccaa	cctgcagtac	60
gaggaggaca	tgcatcaccc	aggctccagg	aagttcaaca	ccacggagcg	ggtcctgcag	120
ggtctgcttg	gtcccatgtt	caagaacacc	agtgtcggcc	ttctgtactc	tggctgcaga	180
ctgaccttgc	tcaggcctga	gaagaatggg	gcagccactg	gaatggatgc	catctgcagc	240
caccgtcttg	accccaaaag	ccctggactc	aacagagagc	agetgtaetg	ggagetgage	300
cagetgacee	atggcatcaa	agagctgg <b>g</b> c	ccctacaccc	tggacaggaa	cagtctctat	360
gtcaatggtt	tcacccatcg	gagctctgtg	gececcaeca	gcactcctgg	gacctccaca	420
gtggaccttg	ggacctcagg	gactccatcc	tecetececa	gccccaca		468
<210> 90						
<211> 468						
<212> DNA						
<213> Hom	o sapiens					

acagetgtte eteteetggt geegtteace eteaaettta ecateaceaa tetgeagtat

ggggaggaca tgcgtcaccc tggctccagg aagttcaaca ccacagagag ggtcctgcag 120 ggtctgcttg gtcccttgtt caagaactcc agtgtcggcc ctctgtactc tggctgcaga

60

## <210> 91 <211> 468 <212> DNA <213> Homo sapiens <400> 91 actgctggcc ctctcctggt gccattcacc ctcaacttca ccatcaccaa cctgcagtat 60 gaggaggaca tgcatcgccc tggatctagg aagttcaaca ccacagagag ggtcctgcag ggtctgctta gtcccatttt caagaactcc agtgttggcc ctctgtactc tggctgcaga 180 ctgacctctc tcaggcccga gaaggatggg gcagcaactg gaatggatgc tgtctgcctc 240 taccacccta atcccaaaag acctggactg gacagagagc agctgtactg ggagctaagc 300 cagetgacce acaacateae tgagetggge cectacagee tggacaggga cagtetetat 360 gteaatggtt teacecatea gaactetgtg cecaceacea gtacteetgg gaceteeaca 420 gtgtactggg caaccactgg gactccatcc teetteeceg gecacaca 468 <210> 92 <211> 468 <212> DNA <213> Homo sapiens <400> 92 gageetggee eteteetgat accatteaet tteaaettta ceateaceaa eetgeattat 60 gaggaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagag ggttctgcag 120 ggtctgctca agcccttgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga 180 ctgacctete teaggeeega gaaggatggg geageaactg gaatggatge tgtetgeete 240 taccacccta atcccaaaag acctgggctg gacagagagc agctgtactg ggagctaagc 300

240

300

360

420

468

ctgatctctc tcaggtctga gaaggatggg gcagccactg gagtggatgc catctgcacc

caccacctta accetcaaag ceetggactg gacagggage agetgtactg geagetgage

cagatgacca atggcatcaa agagetggge cectacacce tggaceggaa cagtetetae

gtcaatggtt tcacccateg gagetetggg ctcaccacca gcactcettg gacttecaca

gttgaccttg gaacctcagg gactccatcc cccgtcccca gccccaca

cagetga	accc	acaacatcac	tgagctgggc	ccctacagcc	tggacaggga	cagtctctat	360
gtcaat	ggtt	tcacccatca	gaactctgtg	cccaccacca	gtactcctgg	gacctccaca	420
gtgtact	ggg	caaccactgg	gactccatcc	tecttecccg	gccacaca		468
<210>	93						
<211>	468						
<212>	DNA						
		sapiens					
12107	1101111	Jupieno					
<400>	93						
		ctctcctgat	accattcact	ttcaacttta	ccatcaccaa	cctgcattat	60
gaggaa	aaca	tgcaacaccc	tggttccagg	aagttcaaca	ccacggagag	ggttctgcag	120
ggtctg	ctca	agcccttgtt	caagaacacc	agtgttggcc	ctctgtactc	tggctgcaga	180
ctgacc	ttgc	tcagacctga	gaagcatgag	gcagccactg	gagtggacac	catctgtacc	240
caccgc	gttg	atcccatcgg	acctggactg	gacagggagc	ggctatactg	ggagetgage	300
cagetg	acca	acagcattac	cgaactggga	ccctacaccc	tggacaggga	cagtototat	360
gtcaat	ggct	tcaaccctcg	gagctctgtg	ccaaccacca	gcactcctgg	gacctccaca	420
gtgcac	ctgg	caacctctgg	gactccatcc	tecctgeetg	gccacaca		468
<210>	94						
<211>	468						
<212>	DNA						
<213>	Home	o sapiens					
<220>							
<221>	mis	c_feature					
<222>	(1)	(468)					
<223>	A11	N's = any i	nucleotide				
<400>	94						
gcccct	gtcc	ctctcttgat	accattcacc	ctcaacttta	ccatcaccaa	cctgcattat	60

gtcaatç	gtt	tcacccatcn	ganctctgng	cccaccacca	gcactcctgg	gacctccaca	420
gtgnacr	ntng	gnacetengg	gactccatcc	teenteecen	geencaca		468
<210>	95						
<211>	468						
<212>	DNA						
<213>	Homo	sapiens					
<400>	95						
tetgete	gee	eteteetggt	gccattcacc	ctcaacttca	ccatcaccaa	cctgcagtac	60
gaggagg	jaca	tgcatcaccc	aggetecagg	aagttcaaca	ccacggagcg	ggtcctgcag	120
ggtctgd	ettg	gtcccatgtt	caagaacacc	agtgtcggcc	ttctgtactc	tggctgcaga	180
ctgacct	tgc	tcaggcctga	gaagaatggg	gcagccactg	gaatggatgc	catctgcage	240
caccgto	ttg	accccaaaag	ccctggactc	gacagagagc	agctgtactg	ggagctgagc	300
cagctga	ecc	atggcatcaa	agagetggge	ccctacaccc	tggacaggaa	cagtctctat	360
gtcaatq	ggtt	tcacccatcg	gagctctgtg	gcccccacca	gcactcctgg	gacctccaca	420
gtggaco	ttg	ggacctcagg	gactccatcc	tccctcccca	gececaca		468
<210>	96						
<211>	468						
<212>	DNA						
<213>	Homo	sapiens					
<400>	96						
					ccatcaccaa		60
ggggagg	jaca	tgcgtcaccc	tggctccagg	aagttcaaca	ccacagagag	ggtcctgcag	120
ggtctg	cttg	gtcccttgtt	caagaactcc	agtgtcggcc	ctctgtactc	tggctgcaga	180

gaggaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagag ggttctgcag ggtctgctca agcccttgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga

ctgaccttgc tcagacctga gaagcatgag gcagccactg gagtggacac catctgtacc caccqcqttq atcccatcqq acctggactg nacagngagc ngctntactg ggagctnagc

canctgacca annncatenn ngagetgggn ecetacacce tggacaggna cagtetetat

120

180 240

300

Cigatetete	ccaygcccya	gaaggacggg	geagecacty	gagiggaige	cattlycatt	240
caccacctta	accctcaaag	ccctggactg	gacagggagc	agctgtactg	gcagctgagc	300
cagatgacca	atggcatcaa	agagctgggc	ccctacaccc	tggaccggaa	cagtototac	360
gtcaatggtt	tcacccatcg	gagctctggg	ctcaccacca	gcactccttg	gacttccaca	420
gttgaccttg	gaacctcagg	gactccatcc	cccgtcccca	gccccaca		468
<210> 97						
<211> 468						
<212> DNA						
<213> Hom	o sapiens					
<400> 97						
actgctggcc	ctctcctggt	gccattcacc	ctaaacttca	ccatcaccaa	cctgcagtat	60
gaggaggaca	tgcatcgccc	tggatctagg	aagttcaacg	ccacagagag	ggtcctgcag	120
ggtctgctta	gtcccatatt	caagaactcc	agtgttggcc	ctctgtactc	tggctgcaga	180
ctgacctctc	tcaggcccga	gaaggatggg	gcagcaactg	gaatggatgc	tgtctgcctc	240
taccacccta	atcccaaaag	acctggactg	gacagagagc	agctgtactg	ggagctaagc	300
cagetgacee	acaacatcac	tgagctgggc	ccctacagcc	tggacaggga	cagtetetat	360
gtcaatggtt	tcacccatca	gagctctatg	acgaccacca	gaactcctga	tacctccaca	420
atgcacctgg	caacctcgag	aactccagcc	tecetgtetg	gacctacg		468
.044. 00						
<210> 98						
<211> 474			`			
<212> DNA						
<213> Hom	o sapiens					
<400> 98						
accgccagcc	ctctcctggt	gctattcaca	atcaactgca	ccatcaccaa	cctgcagtac	60
gaggaggaca	tgcgtcgcac	tggctccagg	aagttcaaca	ccatggagag	tgtcctgcag	120

ggtctgctca agcccttgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga

ttgaccttgc tcaggcccaa gaaagatggg gcagccactg gagtggatgc catctgcacc

180

caccgccttg	accccaaaag	ccctggactc	aacagggagc	agctgtactg	ggagctaagc	300
aaactgacca	atgacattga	agagctgggc	ccctacaccc	tggacaggaa	cagtctctat	360
gtcaatggtt	tcacccatca	gagetetgtg	tecaceacea	gcactcctgg	gacctccaca	420
gtggatctca	gaacctcagg	gactccatcc	teceteteca	gccccacaat	tatg	474
<210> 99						
<211> 468						
<211> 400 <212> DNA						
<213> HOM	o sapiens					
<220>						
	- faatuus					
	c_feature					
	(468)					
<223> All	N's = any m	nucleotide				
<400> 99 ncnnctgnce	ctctcctgnt	ncenttcacc	ntcaacttna	ccatcaccaa	cctgcantan	60
gnggannaca	tgennenece	nggntccagg	aagttcaaca	ccacngagag	ggtcctacag	120
ggtctgctca	ggcccttgtt	caagaacacc	agtgtcagct	ctctgtactc	tggttgcaga	180
ctgaccttgc	tcaggcctga	gaaggatggg	gcagccacca	gagtggatgc	tgcctgcacc	240
taccgccctg	atcccaaaag	ccctggactg	gacagagagc	aactatactg	ggagctgagc	300
cagetaacee	acagcatcac	tgagctggga	ccctacaccc	tggacagggt	cagtctctat	360
gtcaatggct	teaacecteg	gagetetgtg	ccaaccacca	gcactcctgg	gacctccaca	420
gtgcacctgg	caacctctgg	gactccatcc	tecetgeetg	gccacaca		468
-010- 100						
<210> 100						
<211> 468						
<212> DNA						
<213> Hom	o sapiens					
<400> 100						

ggtctgctca	agcccttgtt	caagagcacc	agegttggee	ctctgtactc	tggctgcaga	180
ctgaccttgc	tcagacctga	gaaacatggg	gcagccactg	gagtggacgc	catctgcacc	240
ctccgccttg	atcccactgg	tcctggactg	gacagagagc	ggctatactg	ggagctgagc	300
cagctgacca	acagcgttac	agagctgggc	ccctacaccc	tggacaggga	cagtctctat	360
gtcaatggct	tcacccagcg	gagctctgtg	ccaaccacca	gtattcctgg	gacctctgca	420
gtgcacctgg	aaacctctgg	gactccagcc	tccctccctg	gccacaca		468
10101 101						
<210> 101						
<211> 468						
<212> DNA						
<213> Home	sapiens					
<400> 101						
gcccctggcc	ctctcctggt	gccattcacc	ctcaacttca	ctatcaccaa	cctgcagtat	60
gaggtggaca	tgcgtcaccc	tggttccagg	aagttcaaca	ccacggagag	agtcctgcag	120
ggtctgctca	agcccttgtt	caagagcacc	agtgttggcc	ctctgtactc	tggctgcaga	180
ctgaccttgc	tcaggcctga	aaaacgtggg	geagecaceg	gcgtggacac	catctgcact	240
cacegeettg	accetetaaa	ccctggactg	gacagagagc	agctatactg	ggagetgage	300
aaactgaccc	gtggcatcat	cgagctgggc	ccctacctcc	tggacagagg	cagtctctat	360
gtcaatggtt	tcacccatcg	gaactttgtg	cccatcacca	gcactcctgg	gacctccaca	420
gtacacctag	gaacctctga	aactccatcc	tecctaceta	gacccata		468
<210> 102						
<211> 468						
<212> DNA						
<213> Home	o sapiens					
<400> 102						
gtgcctggcc	ctctcctggt	gccattcacc	ctcaacttca	ccatcaccaa	cttgcagtat	60
gaggaggeca	tgcgacaccc	tggctccagg	aagttcaata	ccacggagag	ggtcctacag	120

120

gaagaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagag ggttctgcag

ggtctgctca	ggcccttgtt	caagaatacc	agtatcggcc	ctctgtactc	cagctgcaga	180
ctgaccttgc	tcaggccaga	gaaggacaag	gcagccacca	gagtggatgc	catctgtacc	240
caccaccctg	accctcaaag	ccctggactg	aacagagagc	agctgtactg	ggagctgagc	300
cagctgaccc	acggcatcac	tgagctgggc	ccctacaccc	tggacaggga	cagtetetat	360
gtcgatggtt	tcactcattg	gagececata	ccgaccacca	gcactcctgg	gacctccata	420
gtgaacctgg	gaacctctgg	gatcccacct	tccctccctg	aaactaca		468
<210> 103						
<211> 468						
<212> DNA						
<213> Homo	o sapiens					
<220>						
<221> mis	c_feature					
<222> (1)	(468)					
<223> All	N's = any m	nucleotide				
<400> 103	ctataatant	neantteace	ntassattns	ccatcaccaa	catacantan	60
						120
				ccacngagag		
				acctctattc		180
ctageeteae	tcaggccaga	gaaggatage	teagecatgg	cagtggatgc	catctgcaca	240
categeeetg	accctgaaga	cctcggactg	gacagagagc	gactgtactg	ggagctgagc	300
aatctgacaa	atggcatcca	ggagetggge	ccctacaccc	tggaccggaa	cagtetetae	360
gtcaatggtt	teacceateg	gagetetggg	ctcaccacca	gcactccttg	gacttccaca	420
gttgaccttg	gaacctcagg	gactccatcc	cccgtcccca	geeceaca		468

111

<210> 104 <211> 468 <212> DNA

# COSSIVE BURE

<400> 104 actgctggcc	ctctcctggt	gccattcacc	ctcaacttca	ccatcaccaa	cctgcagtat	60
gaggaggaca	tgcatcgccc	tggttccagg	aggttcaaca	ccacggagag	ggttctgcag	120
ggtctgctca	cgcccttgtt	caagaacacc	agtgttggcc	ctctgtactc	tggctgcaga	180
ctgaccttgc	tcagacctga	gaagcaagag	gcagccactg	gagtggacac	catctgtacc	240
caccgcgttg	atcccatcgg	acctggactg	gacagagagc	ggctatactg	ggagctgagc	300
cagctgacca	acagcatcac	agagctggga	ccctacaccc	tggataggga	cagtetetat	360
gtcaatggct	tcaacccttg	gagctctgtg	ccaaccacca	gcactcctgg	gacctccaca	420
gtgcacctgg	caacctctgg	gactccatcc	tecctgectg	gccacaca		468
<210> 105						
<211> 468						
<212> DNA						
<213> Home	sapiens					
<400> 105						
geceetgtee	ctctcttgat	accattcacc	ctcaacttta	ccatcaccga	cctgcattat	60
gaagaaaaca	tgcaacaccc	tggttccagg	aagttcaaca	ccacggagag	ggttctgcag	120
ggtetgetea	agecettgtt	caagagcacc	agegttggee	ctctgtactc	tggctgcaga	180
ctgaccttgc	tcagacctga	gaaacatggg	gcagccactg	gagtggacgc	catctgcacc	240
ctccgccttg	atcccactgg	tcctggactg	gacagagage	ggctatactg	ggagetgage	300
cagctgacca	acagcgttac	agagctgggc	ccctacaccc	tggacaggga	cagtctctat	360
gtcaatggct	tcacccatcg	gagetetgtg	ccaaccacca	gtattcctgg	gacctctgca	420
gtgcacctgg	aaacctctgg	gactccagcc	tecetecetg	gccacaca		468
<210> 106						
<211> 468						

112

<212> DNA <213> Homo sapiens

3000009300	ocococygo	9000000000	000000000	000000000	ooogougeue	
gaggaggaca	tgcgtcaccc	tggttccagg	aagttcagca	ccacggagag	agtcctgcag	120
ggtctgctca	agcccttgtt	caagaacacc	agtgtcagct	ctctgtactc	tggttgcaga	180
ctgaccttgc	tcaggcctga	gaaggatggg	gcagccacca	gagtggatgc	tgtctgcacc	240
catcgtcctg	accccaaaag	ccctggactg	gacagagagc	ggctgtactg	gaagctgagc	300
cagctgaccc	acggcatcac	tgagctgggc	ccctacaccc	tggacaggca	cagtctctat	360
gtcaatggtt	tcacccatca	gagetetatg	acgaccacca	gaactcctga	tacctccaca	420
atgcacctgg	caacctcgag	aactccagcc	tccctgtctg	gacctacg		468
<210> 107						
<211> 468						
<212> DNA						
<213> Homo	o sapiens					
	•					
<400> 107						
accgccagcc	ctctcctggt	gctattcaca	attaacttca	ccatcactaa	cctgcggtat	60
gaggagaaca	tgcatcaccc	tggctctaga	aagtttaaca	ccacggagag	agtccttcag	120
ggtctgctca	ggcctgtgtt	caagaacacc	agtgttggcc	ctctgtactc	tggctgcaga	180
ctgaccacgc	tcaggcccaa	gaaggatggg	geagecacea	aagtggatgc	catctgcacc	240
taccgccctg	atcccaaaag	ccctggactg	gacagagagc	agctatactg	ggagctgagc	300
cagctaaccc	acagcatcac	tgagctgggc	ccctacaccc	aggacaggga	cagtctctat	360
gtcaatggct	tcacccatcg	gagetetgtg	ccaaccacca	gtattcctgg	gacctctgca	420
gtgcacctgg	aaacctctgg	gactccagcc	tecetecetg	gccacaca		468
<210> 108						
<211> 468						
<212> DNA						
<213> Homo	sapiens					
<400> 108	ctateetaet	~~~****	at as satt	a+ a+ a a a a	00100001	60
		gecatteace				60
yayyayyaca	rycgtcaccc	tggttccagg	aagttcaaca	ccacggagag	agtcctgcag	120

# DIOCES 20 DONTEL

ggtctgctca agcccttgtt caagagcacc agtgttggcc ctctgtactc tggctgcaga	180
etgacettge teaggeetga aaaacgtggg geagceaecg gegtggacae catetgeaet	240
caccgcettg accetetaaa eccaggactg gacagagage agetatactg ggagetgage	300
aaactgaccc gtggcatcat cgagctgggc ccctacctcc tggacagagg cagtctctat	360
gtcaatggtt tcacccatcg gacctctgtg cccaccacca gcactcctgg gacctccaca	420
gtggaccttg gaacctcagg gactccattc tccctcccaa gccccgca	468
<210> 109	
<211> 465	
<212> DNA	
<213> Homo sapiens	
<220>	
<221> misc_feature	
<222> (1)(465)	
<223> All N's = any nucleotide	
<400> 109	
nennetgnee eteteetgnt neentteace nteaacttna ecateaceaa cetgeantan	60
gnggannaca tgennenece nggntecagg aagtteaaca ecaengagag ggteetgeag	120
actetgettg gteetatgtt caagaacace agtgttggee ttetgtacte tggetgeaga	180
ctgaccttgc tcaggtccga gaaggatgga gcagccactg gagtggatgc catctgcacc	240
caccgtcttg accccaaaag ccctggagtg gacagggagc aactatactg ggagctgagc	300
cagctgacca atggcattaa agaactgggc ccctacacce tggacaggaa cagtctctat	360
gtcaatgggt tcacccattg gatccctgtg cccaccagca gcactcctgg gacctccaca	420

465

gtggacettg ggtcagggac tecatectee etceccagee ceaca

114

<210> 110 <211> 468

<212> DNA

## <213> Homo sapiens

<400> 110	
actgetggee eteteetggt geegtteace eteaacttea ceateaceaa cetgaagtae	60
gaggaggaca tgcattgccc tggctccagg aagttcaaca ccacagagag agtcctgcag	120
agtotgottg gtoccatgtt caagaacace agtgttggcc ctctgtactc tggctgcaga	180
ctgacettge teaggteega gaaggatgga geagceaetg gagtggatge eatetgeaee	240
caccgtcttg accccaaaag ccctggagtg gacagggagc agctatactg ggagctgagc	300
cagetgacea atggeateaa agagetgggt eeetacaeee tggacagaaa cagtetetat	360
gtcaatggtt toacceatea gacctotgog cocaacacca gcactootgg gacctocaca	420
gtggacettg ggaceteagg gactecatee teecteecca gecetaca	468
<210> 111	
<211> 465	
<212> DNA	
<213> Homo sapiens	
<220>	
<221> misc_feature	
<222> (1)(465)	
<223> All N's = any nucleotide	
<400> 111	
nonnotgnee eteteetgnt neentteace nteaacttna ceateaceaa cetgeantan	60
gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagng ngtnctgcag	120
ggtetgetnn nnecentntt caagaacnee agtgtnggee ntetgtaete tggetgeaga	180
ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc	240

caccnnentn aneccaaaag neetggaetg nacagngage ngetntaetg ggagetnage

cancigacca annneatenn ngagetgggn ceetacacce tggacaggna cagtetetat

gtcaatggtt tcacccattg gatccctgtg cccaccagca gcactcctgg gacctccaca

gtggacettg ggtcagggac tecatectee etececagee ccaca

300

360

420

```
<210>
      112
<211>
      468
<212>
      DNA
<213> Homo sapiens
<220>
<221> misc feature
<222> (1)..(468)
<223> All N's = anv nucleotide
<400> 112
actgetggce eteteetggt geogtteace eteaacttea ecateaceaa cetgaagtae
                                                                     60
gaggaggaca tgcattgccc tggctccagg aagttcaaca ccacagagag agtcctgcag
                                                                    120
agtotgottg gtoccatgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga
                                                                    180
ctgacctege teaggteega gaaggatgga geagecactg gagtggatge catetgeace
                                                                    240
caccgtgttg accccaaaag ccctggagtg gacagggagc agctatactg ggagctgagc
                                                                    300
cagetgaeca atggeateaa agagetgggt cectacaece tggacagaaa cagtetetat
                                                                    360
gteaatggtt teacceatca gacetetgeg eccaacacca geacteetgg gacetecaca
                                                                    420
gtgnachtng gnacctengg gactecatee teenteeen geencaca
                                                                    468
<210>
      113
<211>
      468
<212>
      DNA
<213> Homo sapiens
<220>
<221> misc feature
<222> (1)..(468)
```

<223> All N's = anv nucleotide

# canctgacca annneatenn ngagetgggn ecetacaece tggacaggna cagtetetat gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca gtgnacntng gnacctengg gactccatcc tecnteccen geencaca <210> 114 <211> 468 <212> DNA <213> Homo sapiens <220> <221> misc feature <222> (1)..(468)

All N's = any nucleotide

<400> 113

<400> 114 nonnetquee eteteetqut neentteace nteaacttna ceateaceaa cetquantan gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagag ggttctgcag ggtctgctca aacccttgtt caggaatagc agtctggaat acctctattc aggctgcaga ctagoctoac toaggocaga gaaggatago toagcoatgg cagtggatgo catotgoaca categocoty accetyaaga coteggacty gacagagage gactytacty gyagetyage aatotgacaa atggcatoca ggagotgggo coctacacco tggacoggaa cagtototat gtcaatggtt tcacccatcg aagctctatg cccaccacca gcactcctgg gacctccaca gtggatgtgg gaacctcagg gactccatcc tccagcccca gccccacg

117

60

120

180

240 300

360

420

468

60

120

180

240

300

360

420

468

totgotggcc ctctcctggt gccattcacc ctcaacttca ccatcaccaa cctgcagtac

gaggaggaca tgcatcaccc aggetecagg aagtteaaca ccaeggageg ggteetgeag

ggtetgettg gteccatgtt caagaacace agtgteggee ttetgtaete tggetgeaga

ctgaccttgc tcaggcctga gaagaatggg gcaaccactg gaatggatgc catctgcacc

cacceptetty acceeaaaay eeetggacty nacagngage ngetntacty ggagetnage

<210> 115

<212> DNA

<213> Homo sapiens

<400> 115
actgctggcc ctctcctgat accattcacc ctcaacttca ccatcaccaa cctgcagtat
ggggaggaca tgggtcaccc tggctccagg aagttcaaca ccacagagag ggtcctgcag
ggtctgcttg gtcccatatt caagaacacc agtgttggcc ctctgtactc tggctgcaga
ctgacctctc tcaggtctga gaaggatgga gcagccactg gagtggatgc catctgcatc
catcatcttg acccaaaag ccctggactc aacagagagc ggctgtactg ggagctgagc
caactgacca atggcatcaa agagctgggc ccctacaccc tggacaggaa cagtctctat
gtcaatggtt tcacccatcg gacctctgtg cccaccacca gcactcctgg gacctccaca

gtggaccttg gaacctcagg gactccattc tccctcccaa gccccgca

<210> 116 <211> 468 <212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 116
actgctggcc ctctcctggt gctgttcacc ctcaacttca ccatcaccaa cctgaagtat
gaggaggaca tgcatcgccc tggctccagg aagttcaaca ccactgagag ggtcctgcag
actctgcttg gtcctatgtt caagaacacc agtgttggcc ttctgtactc tggctgcaga
ctgaccttgc tcaggtccga gaaggatgga gcagccactg gagtggatge catctgcacc
caccgtcttg accccaaaag ccctggactg nacagngagc ngctntactg ggagctnagc
canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat

60

120

180 240

300

360

420 468

60

120 180

240 300

gtcaatggtt	tcacccatcn	ganetetgng	cccaccacca	gcactcctgg	gacctccaca	420
gtgnacntng	gnacctengg	gactccatcc	teenteecen	gccncaca		468
<210> 117						
<211> 468						
<213> HOM	o sapiens					
<220>						
	. 6					
	c_feature					
	(468)					
<223> All	N's = any	nucleotide				
<400> 117 nennetgnee	ctctcctgnt	ncentteacc	ntcaacttna	ccatcaccaa	cctgcantan	60
gnggannaca	tgcnncnccc	nggntccagg	aagttcaaca	ccacngagag	agtccttcag	120
ggtctgctca	ggcctgtgtt	caagaacacc	agtgttggcc	ctctgtactc	tggctgcaga	180
ctgaccttgc	tcaggcccaa	gaaggatggg	gcagccacca	aagtggatgc	catctgcacc	240
taccgccctg	atcccaaaag	ccctggactg	gacagagage	agctatactg	ggagctgagc	300
cagctaaccc	acagcatcac	tgagctgggc	ccctacaccc	aggacaggga	cagtctctat	360
gtcaatggct	tcacccatcg	gagctctgtg	ccaaccacca	gtattcctgg	gacctctgca	420
gtgcacctgg	aaaccactgg	gactccatcc	tecttecccg	gccacaca		468
<210> 118						
<211> 468						
<212> DNA						
	o sapiens					
1213× 110111	5 Supremo					
<400> 118						
	ctctcctgat	accattcact	ttcaacttta	ccatcaccaa	cctgcgttat	60
gaggaaaaca	tgcaacaccc	tggttccagg	aagttcaaca	ccacggagag	ggttctgcag	120
ggtctgctca	cgcccttgtt	caagaacacc	agtgttggcc	ctctgtactc	tggctgcaga	180

40
00
60
20
68
60
20
.80
40
00
60
20
68

<221> misc\_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 120

gaggaggaca	tgcattgccc	tggctccagg	aagttcaaca	ccacagagag	agtcctgcag	120
agtetgeatg	gteceatgtt	caagaacacc	agtgttggcc	ctctgtactc	tggctgcaga	180
ctgaccttgc	tcaggtccga	gaaggatgga	gcagccactg	gagtggatgc	catctgcacc	240
caccgtcttg	accccaaaag	ccctggactg	nacagngagc	ngctntactg	ggagctnagc	300
canctgacca	annncatenn	ngagctgggn	ccctacaccc	tggacaggna	cagtctctat	360
gtcaatggtt	tcacccatcn	ganctctgng	cccaccacca	gcactcctgg	gacctccaca	420
gtgnacntng	gnacctengg	gactccatcc	teenteecen	gcencaca		468
<210> 121						
<211> 468						
<212> DNA						
<213> Home	sapiens					
<220>						
<221> mis	c_feature					
<222> (1)	(468)					
<223> All	N's = any m	nucleotide				
<400> 121 nennetgnee	ctctcctgnt	ncenttcace	ntcaacttna	ccatcaccaa	cctgcantan	60
	tgennenece					120
ggtetgetnn	nnccentntt	caagaacncc	agtgtnggcc	ntctgtactc	tggctgcaga	180
ctgacctnnc	tcaggncnga	gaagnatggn	gcagccactg	gantggatgc	catctgcanc	240
cacennentn	ancccaaaag	ncctggactg	nacagngagc	ngctntactg	ggagetnage	300

canctgacca acagcatcac agagctggga ccctacaccc tggataggga cagtctctat

gtcaatggtt tcacccatcg aagetetatg cccaccacca gtatteetgg gacetetgea

gtgcacctgg aaacctctgg gactccagcc tccctccctg gccacaca

60

360

420

468

actgctggcc ctctcctggt gccgttcacc ctcaacttca ccatcaccaa cctgaagtac

<210> 122 <211> 468 <212> DNA <213> Homo sapiens <220> <221> misc feature <222> (1)..(468) <223> All N's = any nucleotide <400> 122 geocctggcc ctctcctggt gccattcacc ctcaacttca ctatcaccaa cctgcagtat 60 gaggaggaca tgcqtcaccc tggttccagg aagttcaaca ccacqqagag agtcctgcag 120 ggtctgetca agecettgtt caagagcace agtgttggcc ctctgtactc tggctgcaga 180 240 ctqaccttqc tcaqqcctqa aaaacqtqqq qcaqccaccq qcgtggacac catctgcact caccgccttg accctctaaa ccctggactg nacagngagc ngctntactg ggagctnagc 300 cancigacca annucateun ngagetgggn ccctacaccc tggacaggna cagicictat 360 gtcaatggtt tcacccatcn ganctetgng cccaccacca gcactcctgg gacctccaca 420 gtgnachtng gnacetengg gactecatee techteceen geencaca 468 <210> 123 <211> 468 <212> DNA <213> Homo sapiens <220> <221> misc feature <222> (1)..(468) <223> All N's = any nucleotide

<400> 123

60 120

180 240

300

360 420

468

60

120 180

240 300

360

420

468

nennetgnee eteteetgnt neentteace ntcaacttna ccatcaccaa cetgcantan gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagng ngtnctgcag ggtctgctnn nnccentntt caagaacnec agtgtnggcc ntctgtactc tggctgcaga ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc cacennentn aneccaaaag neetggactg nacagngage ngetntaetg ggagetnage cancigacca annocation ngagotgggn coctacacco tggacaggna cagiototat gtcaatggtt ttcacceteg gagetetgtg ccaaccacca gcacteetgg gacetecaca gtgeacctgg caacctetgg gactecatec tecetgeetg gecacaca

<210> 124

<211> 468

DNA <213> Homo sapiens

<220>

<212>

<221> misc\_feature

<222> (1)..(468)

All N's = any nucleotide

<400> 124 geocetytee etetettyat accatteace eteaacttta ecateaceaa eetyeattat gaagaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagcg ggtcctgcag qqtctqcttg qtcccatqtt caaqaacaca agtgtcggcc ttctgtactc tggctgcaga ctgaccttgc tcaggcctga gaagaatggg gcagccactg gaatggatgc catctgcagc caccegtettg accccaaaag ccctggactg nacagngage ngetntactg ggagetnage canctgacca annncatonn ngagetgggn coctacacco tggacaggna cagtototat gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca gtgnachtng gnacctengg gactecatee teenteecen geencaca

<210> 125

<211> 468

<212>	DNA	
<213>	Homo sapiens	
<220>		
<221>	misc_feature	
<222>	(1)(468)	
<223>	All N's = any nucleotide	
	125	60
	gncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan	
		120
ggtetg		180
ctgacc	tnnc teaggnenga gaagnatggn geageeactg gantggatge eatetgeane	240
caccnn	entn aneceaaaag neetggaetg nacagngage ngetntaetg ggagetnage	300
canctg	acca annncatenn ngagetgggn ecetaeacce tggacaggna eagtetetat	360
gtcaat	ggtt teacceatea gaactetgtg cecaceacea gtacteetgg gaceteeaca	420
gtgtac	tggg caaccactgg gactccatec teetteeeeg gecacaca	468
<210>	126	
	468	
	DNA	
	Homo sapiens	
12137	nome supreme	
<220>		
	misc feature	
	(1)(468)	
	All N's = any nucleotide	
\L\J>	III W 3 - any nucleotide	
<400>	126	
	ggcc ctctcctgat accattcact ttcaacttta ccatcaccaa cctgcattat	60

gaggaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagag ggttctgcag

ggtetgetea egeeettett eaagaacace agtettegee etetgatete tegetgeaga 180
etgacettge teagacetga gaageaggag geagecactg gagtggacac eatetgtace 240
eacegegttg ateceategg acetggactg nacagngage ngetntactg ggagetnage 300
eanetgacea annocatenn ngagetgggn ecetacacee tegacaggna eagtetetat 360
gteaatggtt teacecaten ganetetgng eceaceacea geactectgg gacetecaca 420
gtgnaentng gnacetengg gactecatee teenteecen geeneaca 468

<210> 127

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 127
nennetpnee eteteetgnt neentteace nteaaettna ceateaceaa cetgeantan
gnggannaca tgennencee nggnteeagg aagtteaaca ceacngagng ngtnetgeag
ggtetgetnn nnecentntt caagaacnee agtgtnggee ntetgtacte tggetgeaga
ctgacetnne teaggnenga gaagnatggn geagecactg gantggatge catetgeane
cacennentn aneceaaaag neetggactg nacagngage ngetntactg ggagetnage
canetgacea anneatenn ngagetgggn ceetacacee tggacaggna cagtetetat
gteaatggtt teacecateg gagetetgtg ceaaccacaa geagteetgg gacetecaca
gtgcacetgg caacctetgg gactecatee teetggetg gecacaca

60 120

180

240 300

360 420

468

<210> 128 <211> 468 <212> DNA <213> Homo sapiens

# <400> 128 COOKETES COETA gtgnachtng gnacctengg gaeteeatee teenteeeen geencaca <210> 129 <211> 468 <212> DNA <213> Homo sapiens <220> <221> misc\_feature <222> (1)..(468)

<223> All N's = any nucleotide

nennetgnee eteteetgnt neentteace nteaacttna ccatcaccaa cetgcantan

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagng ngtnctgcag

ggtctgctnn nncccntntt caagaacnec agtgtnggec ntctgtacte tggctgcaga

ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc

<400> 129

<220>

<221> misc\_feature <222> (1)..(468)

<223> All N's = any nucleotide 60 quecetqtee etetetqat accatteace eteaacttta ccateaceaa cetgeattat gaagaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagag ggttctgcag 120 ggtctgctca agecettgtt caagagcace agtgttggcc ctctgtactc tggctgcaga 180 240 ctgaccttgc tcagacctga gaaacatggg gcagccactg gagtggacgc catctgcacc 300 ctecgeettg ateceaetgg teetggaetg nacagngage ngetntaetg ggagetnage canctgacca annneatenn ngagetgggn ceetacacce tggacaggna cagtetetat 360 qtcaatgqtt teacceaten ganetetgng cecaccacca geacteetgg gacetecaca 420 468

60

120

cacennentn aneceaaaag neetggactg nacagngage ngetntaetg ggagetn	age 300
canctgacca annneatenn ngagetgggn ecetacacce tggacaggna cagtete	tat 360
gteaatggtt teacceateg gacetetgtg eccaecaeca geacteetgg gacetee	aca 420
gtgcacctgg caacctctgg gactccatcc tccctgcctg gccacaca	468
<210> 130	
<211> 468	
<212> DNA	
<213> Homo sapiens	
<220>	
<221> misc_feature	
<222> (1)(468)	
<223> All N's = any nucleotide	
<400> 130	
geocotgtee etetettgat accatteace eteaacttta ceateaceaa cetgeag	tat 60
gaggaggaca tgcatcgccc tggatctagg aagttcaaca ccacagagag ggtcctg	cag 120
ggtetgetta gteccatttt caagaactee agtgttggee etetgtaete tggetge	aga 180
ctgacctctc tcaggcccga gaaggatggg gcagcaactg gaatggatgc tgtctgc	ctc 240
taccacccta atcccaaaag acctggactg nacagngagc ngctntactg ggagctn	agc 300
canctgacca annneatenn ngagetgggn ecetacaece tggacaggna cagtete	tat 360
gtcaatggtt teacceaten ganetetgng eccaceacea geacteetgg gacetee	aca 420
gtgnachtng gnacctengg gaetccatec techteceen geeneaca	468
<210> 131	
<211> 468	
<212> DNA	
.010- 77	

221> misc_feature
222> (1)(468)
223> All N's = any nucleotide
400> 131 ennetgnee eteteetgnt neentteaee nteaaettna eeateaeeaa eetgeantan 6
nggannaca tgennenece nggntecagg aagtteaaca ecaengagng ngtnetgeag 12
gtetgetnn nnecentntt caagaacnee agtgtnggee ntetgtacte tggetgeaga 18
tgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc 24
accnnentn ancecaaaag neetggaetg nacagngage ngetntaetg ggagetnage 30
anetgacca annneatenn ngagetgggn eectacacce tggacaggna cagtetetat 36
tcaatggtt tcacccattg gagctctggg ctcaccacca gcactccttg gacttccaca 42
ttgacettg gaaceteagg gaetecatee eeegteecea geeceaca 46
210> 132
211> 468
212> DNA
213> Homo sapiens
•
220>
221> misc_feature
222> (1)(468)
223> All N's = any nucleotide
400> 132
ctgctggcc ctctcctggt gccattcacc ctaaacttca ccatcaccaa cctgcagtat 6
aggaggaca tgcatcgccc tggatctagg aagttcaacg ccacagagag ggtcctgcag 12
gtotgotta gtoccatatt caagaacaco agtgttggoo ototgtacto tggotgoaga 18
tgacettge teagacetga gaageaggag geageeactg gagtggacae eatetgtace 24
accgegttg atcceatcgg acctggactg nacagngage ngetntactg ggagetnage 30

canctgacca annneatenn ngagetgggn ecetacacce tggacaggna cagtetetat

gtcaatggti	tcacccatcn	ganctctgng	cccaccacca	gcactcctgg	gacctccaca	420
gtgnacntn	gnacetengg	gactccatcc	tccntccccn	gccncaca		468
<210> 133	1					
<211> 468						
<212> DNA	1					
<213> Hor	no sapiens					
<220>						
<221> mis	sc_feature					
<222> (1	(468)					
<223> Al	N's = any n	ucleotide				
<400> 133	ctctcctgnt	nconttoacc	ntcaacttna	ccatcaccaa	cctgcantan	60
_	tgennencee					120
	nnecentntt					180
ctgacctnn	tcaggnenga	gaagnatggn	gcagccactg	gantggatgc	catctgcanc	240
caccnncnt	n ancccaaaag	ncctggactg	nacagngage	ngctntactg	ggagctnagc	300
canctgace	annncatcnn	ngagctgggn	ccctacaccc	tggacaggna	cagtetetat	360
gtcaatggt	tcacccatcg	gagetttggg	ctcaccacca	gcactccttg	gacttccaca	420
gttgacctt	gaacetcagg	gactccatcc	eccgtcecca	gceccaca		468
<210> 13	1					
<211> 46						
<212> DN/						
	no sapiens					
<220>						
<221> mis	c_feature					
<222> (1)	(468)					

## <223> All N's = any nucleotide

<400> 134 actgctggcc ctctcctggt gccattcacc ctaaacttca ccatcaccaa cctgcagtat 60	0
gaggaggaca tgcatcgccc tggctccagg aagttcaaca ccacggagag ggtccttcag 120	0
ggtctgctta cgcccttgtt caggaacacc agtgtcagct ctctgtactc tggttgcaga 180	0
ctgaccttgc tcaggcctga gaaggatggg gcagccacca gagtggatgc tgtctgcacc 240	0
categicetg accecaaaag coetggactg nacagngage ngcintactg ggageinage 300	Э
canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360	О
gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca 420	0
gtgnachtng gnacctengg gaeteeatee teenteeeen geeneaca 468	8
<210> 135	
<211> 465	
<212> DNA	
<213> Homo sapiens	
<220>	
<221> misc_feature	
<222> (1)(465)	
<223> All N's = any nucleotide	
<400> 135 ncnnetgnee eteteetgnt neentteace nteaacttna ecateaceaa cetgeantan 60	0
gnggannaca tgennencee nggntecagg aagtteaaca ceaengagng ngtnetgeag 120	n
ggtctgctnn nncccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga 180	
etgacetnne teaggnenga gaagnatggn geageeactg gantggatge catetgeane 240	О
caccnnentn aneceaaaag neetggactg nacagngage ngetntaetg ggagetnage 300	0
canctgacca annneatenn ngagetgggn ecetacacce tggacaggna cagtetetat 360	О

gtcaatggtt tcacccattg gatccctgtg cccaccagca gcactcctgg gacctccaca 420

465

gtggaccttg ggtcagggac tocatoctoc otcoccagoo ccaca

```
<210> 136
<211> 468
<212>
      DNA
<213> Homo sapiens
<220>
<221> misc feature
<222> (1)..(468)
<223> All N's = any nucleotide
<400> 136
actgctggcc ctctcctggt accattcacc ctcaacttca ccatcaccaa cctgcagtat
                                                                     60
qqqqaqqaca tqqqtcaccc tqqctccagg aagttcaaca ccacagagag ggtcctgcag
                                                                    120
ggtctgcttg gtcccatatt caagaacacc agtgttggcc ctctgtactc tggctgcaga
                                                                    180
ctgacctete teaggteega gaaggatgga geagceactg gagtggatge catetgeate
                                                                     240
catcatettg accecaaaag coetggactg nacagngage ngctntactg ggagetnage
                                                                     300
canctgacca annncatcnn ngagetgggn ccctacaccc tggacaggna cagtctctat
                                                                    360
gtcaatggtt tcacccaten ganetetgng cccaccacca gcactcctgg gacctccaca
                                                                    420
qtqnacntng gnacctengg gactecatec teenteecen geencaca
                                                                     468
<210>
      137
<211>
      468
<212>
      DNA
<213> Homo sapiens
<220>
<221> misc_feature
<222> (1)..(468)
```

<223> All N's = any nucleotide

# COUNTRACTO COURTE

<400> 137

<210> 138

<220>

<210> 139

468 <211> <212> DNA <213> Homo sapiens

<221>	misc	_feature					
<222>	(1).	. (468)					
<223>	All	N's = any r	nucleotide				
<400>	138						
		ctctcctggt	gccattcacc	ctcaacttca	ccatcaccaa	cctgcagtac	60
gaggag	gaca	tgcatcaccc	aggetecagg	aagttcaaca	ccacggagcg	ggtcctgcag	120
ggtctg	cttg	gtcccatgtt	caagaacacc	agtgtcggcc	ttctgtactc	t <b>g</b> gctgcaga	180
ctgacc	ttgc	tcaggcctga	gaagaatggg	gcagccacca	gagtggatgc	tgtctgcacc	240
catcgt	cctg	accccaaaag	ccctggactg	nacagngagc	ngctntactg	ggagctnagc	300
canctg	acca	annncatenn	ngagctgggn	ccctacaccc	tggacaggna	cagtctctat	360
gtcaat	ggtt	tcacccatcn	ganctetgng	cccaccacca	gcactcctgg	gacctccaca	420
gtgnac	ntng	gnacetengg	gactccatcc	teenteecen	geencaca		468

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagng ngtnctgcag ggtetgetnn nnecentntt caagaacnee agtgtnggee ntetgtacte tggetgeaga 240 ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc cacennentn ancccaaaag noctggactg nacagngage ngctntactg ggagetnage canetgacca annneatenn ngagetgggn ecetacacce tggacaggna eagtetetat gtoaatggtt toaccoatca gacotttgcg cocaacacca goactcotgg gacotcoaca 420 gtggaccttg ggacctcagg gactccatcc tccctcccca gccctaca

nonnetgnee eteteetgnt neentteace nteaacttna ceateaceaa eetgeantan

120

180

300

360

## <211> 468 <212> DNA <213> Homo sapiens <220> <221> misc feature <222> (1)..(468) <223> All N's = any nucleotide <400> 139 nennetgnee eteteetgnt neentteace nteaacttna ccatcaccaa cetgcantan 60 120 gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagag ggttctgcag 180 ggtctgctca agcccttgtt caagagcacc agtgttggcc ctctgtattc tggctgcaga ctgaccttgc tcaggcctga gaaggacgga gtagccacca gagtggacgc catctgcacc 240 300 cacegeeetg acceeaaaat eeetgggeta gacagacage agetataetg ggagetgage cagetgaece acageateae tgagetggga ecetacaece tggataggga eagtetetat 360 gtcaatggtt tcacccagcg gagctetgtg cccaccacca gcactcctgg gactttcaca 420 468 gtacageegg aaacetetga gacteeatea teeeteeetg geeceaca <210> 140 <211> 468 <212> DNA <213> Homo sapiens <400> 140 gocactggcc ctgtcctgct gccattcacc ctcaatttta ccatcactaa cctgcagtat 60 120 gaggaggaca tgcatcgccc tggctccagg aagttcaaca ccacggagag ggtccttcag 180 ggtctgctta tgcccttgtt caagaacacc agtgtcagct ctctgtactc tggttgcaga 240 ctgacettge teaggeetga gaaggatggg geagecacea gagtggatge tgtetgeace

categoetg accecaaaag ceetggactg gacagagage ggetgtactg gaagetgage

cagetgacec aeggeateae tgagetggge cectacaeec tggacaggea cagtetetat

300

### <210> 141 <211> 468 <212> DNA <213> Homo sapiens <400> 141 accgccagcc ctctcctggt gctattcaca attaacttca ccatcactaa cctgcggtat 60 120 gaggagaaca tgcatcaccc tggctctaga aagtttaaca ccacggagag agtccttcag 180 ggtetgetea ggeetgtgtt caagaacac agtgttggee etetgtacte tggetgeaga 240 ctgaccttgc tcaggcccaa gaaggatggg gcagccacca aagtggatgc catctgcacc 300 taccgccctg atcccaaaag ccctggactg gacagagagc agctatactg ggagctgagc cagetaacce acageateae tgagetggge ceetacacce tggacaggga cagtetetat 360 gtcaatggtt tcacacageg gagetetgtg cccaccacta gcatteetgg gacccccaca 420 gtggacetgg gaacatetgg gactecagtt tetaaacetg gteecteg 468 <210> 142 <211> 468 <212> DNA <213> Homo sapiens <400> 142 getgeeagec eteteetggt getatteact eteaacttea ceateaceaa eetgeggtat 60 120 gaggagaaca tgcagcaccc tggctccagg aagttcaaca ccacggagag ggtccttcag 180 ggeetgetea ggteeetgtt caagageace agtgttggee etetgtacte tggetgeaga 240 ctgactttgc tcaggcctga aaaggatggg acagccactg gagtggatgc catctgcacc 300 caccaccctg accccaaaag ccctaggctg gacagagagc agctgtattg ggagctgagc cagetgacce acaatateae tgagetggge caetatgeee tggacaacga cageetettt 360

gtcaatggtt tcactcatcg gagetetgtg tccaccacca gcactcetgg gacccccaca

gtgtatctgg gagcatctaa gactccagcc tcgatatttg gcccttca

420

468

420

468

gtcaatggtt tcacccatca gagetetatg acgaccacca gaactcctga tacctccaca

atgcacctgg caacctcgag aactccagcc tccctgtctg gacctacg

124
Ü
1
m
M
14
W
ţŎ
Fi .
0
Q
PU
1
13
luis.

<210> 143 <211> 399 <212> DNA <213> Homo sapiens

<400> 143 gctgccagcc	atctcctgat	actattcacc	ctcaacttca	ccatcactaa	cctgcggtat	60
gaggagaaca	tgtggcctgg	ctccaggaag	ttcaacacta	cagagagggt	ccttcagggc	120
ctgctaaggc	ccttgttcaa	gaacaccagt	gttggccctc	tgtactctgg	ctccaggctg	180
accttgctca	ggccagagaa	agatggggaa	gccaccggag	tggatgccat	ctgcacccac	240
cgccctgacc	ccacaggccc	tgggctggac	agagagcagc	tgtatttgga	gctgagccag	300
ctgacccaca	gcatcactga	gctgggcccc	tacacactgg	acagggacag	tetetatgte	360
aatggtttca	cccatcggag	ctctgtaccc	accaccage			399
<210> 144						
<211> 453						
<212> DNA						
<213> Home	sapiens					
<213> Home	o sapiens					
<400> 144	sapiens tcagcgagga	gccattcaca	ctgaacttca	ccatcaacaa	cctgcgctac	60
<400> 144 accggggtgg						60 120
<400> 144 accggggtgg atggcggaca	tcagcgagga	eggeteeete	aagttcaaca	tcacagacaa	cgtcatgaag	
<400> 144 accggggtgg atggcggaca cacctgctca	tcagcgagga	cggctccctc ccagaggagc	aagttcaaca agcctgggtg	tcacagacaa cacggtacac	cgtcatgaag aggctgcagg	120
<400> 144 accggggtgg atggcggaca cacctgctca gtcatcgcac	tcagcgagga tgggccaacc gtcctttgtt	eggeteeete ecagaggage gaagaaeggt	aagttcaaca agcctgggtg gctgagacac	tcacagacaa cacggtacac gggtggacct	cgtcatgaag aggctgcagg cctctgcacc	120 180
<400> 144 accggggtgg atggcggaca cacctgctca gtcatcgcac tacctgcagc	tcagcgagga tgggccaacc gtcctttgtt taaggtctgt	eggeteete ecagaggage gaagaaeggt eccaggtetg	aagttcaaca agcctgggtg gctgagacac cctatcaagc	tcacagacaa cacggtacac gggtggacct aggtgttcca	cgtcatgaag aggctgcagg cctctgcacc tgagctgagc	120 180 240
<400> 144 accggggtgg atggcggaca cacctgctea gtcatcgcac tacctgcagc cagcagaccc	tcagcgagga tgggccaacc gtcctttgtt taaggtctgt ccctcagcgg	cggctccctc ccagaggagc gaagaacggt cccaggtctg ccggctgggc	aagttcaaca agcetgggtg getgagacac cctatcaagc ccctactctc	tcacagacaa cacggtacac gggtggacct aggtgttcca tggacaaaga	cgtcatgaag aggctgcagg cctctgcacc tgagctgagc	120 180 240 300
<400> 144 accggggtgg atggcgaca cacctgctca gtcatcgcac tacctgcagc cagcagaccc cttaacggtt	tcagcgagga tgggccaacc gtcctttgtt taaggtctgt ccctcagcgg atggcatcac	cggctccctc ccagaggagc gaagaacggt cccaggtctg ccggctgggc tggtctagat	aagttcaaca agcctgggtg gctgagacac cctatcaagc ccctactctc gagcctccta	tcacagacaa cacggtacac gggtggacct aggtgttcca tggacaaaga	cgtcatgaag aggctgcagg cctctgcacc tgagctgagc	120 180 240 300 360

<211>	4	65															
<212>	DI	ΝA															
<213>	Н	omo	sapi	ens													
<400> gccato								a+ a		+ 00	aaat	ot or		tataa	and at		60
tcacca																	120
	-																180
ctgct	_				_												
atete																	240
caccct																	300
ctgac																	360
aatgg	cta	tg c	acco	caga	a tt	tato	caato	cgo	igac	gagt	acca	agata	aa	tttcc	cacati	t	420
gtcaa	ctg	ga a	cctc	agta	a to	ccaga	acccc	aca	itcct	cag	agta	ac					465
<210>	1	46															
<211>	9	799															
<212>	P	RT															
<213>	Н	omo	sapi	.ens													
<220>																	
<221>	V.	ARIA	LNT														
<222>	(	1)	(979	99)													
<223>	А	ny "	'X" =	any	ami	ino a	acid										
<400>	1	46															
Ala T			Pro	Phe	Met.	Val	Pro	Phe	Thr	Leu	Asn	Phe	Thr	Ile	Thr		
1				5					10					15			
Asn L	eu	Gln	Tyr 20	Glu	Glu	Asp	Met	Arg 25	His	Pro	Gly	Ser	Arg	Lys	Phe		
Asn A	la	Thr		Ara	Gle	T.e.13	Glr		Len	Len	T.ve	Pro	Leu	Phe	Ara		
.1511 A		35	J. U	-11 Y	214	_eu	40	Jry	204	204	2,3	45	200		9		
Asn S		Ser	Leu	Glu	Tyr	Leu 55	Tyr	Ser	Gly	Cys	Arg 60	Leu	Ala	Ser	Leu		

Arg Pro Glu Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr 65 70 75 80

His Arg Pro Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr 85 90 95

Trp Glu Leu Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr 100 105 110

Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser 115 120 125

Ser Met Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly 130 \$135\$

Thr Ser Gly Thr Pro Ser Ser Ser Pro Ser Pro Thr Ala Ala Gly Pro 145 \$150\$

Leu Leu Met Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr  $165 \hspace{1.5cm} 170 \hspace{1.5cm} 175 \hspace{1.5cm}$ 

Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu  $180 \,$   $185 \,$   $190 \,$ 

Ser Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val

Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys  $210 \hspace{1.5cm} 215 \hspace{1.5cm} 220 \hspace{1.5cm}$ 

Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp 225 230 235

Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser 245 250 255

Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg  $260 \hspace{1.5cm} 265 \hspace{1.5cm} 270 \hspace{1.5cm}$ 

Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr 275 280 285

Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr 290 295 300

Pro Ser Ser Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu 305 310 315 320

Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Gly Glu 325 330 335

Asp Met Gly His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val 340 345 350

Leu Gln Gly Leu Leu Gly Pro Ile Phe Lys Asn Thr Ser Val Gly Pro 355 360 365

Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Ser Glu Lys Asp Gly

	370					375					380				
Ala 385	Ala	Thr	Gly	Val	Asp 390	Ala	Ile	Cys	Ile	His 395	His	Leu	Asp	Pro	Lys 400
Ser	Pro	Gly	Leu	Asn 405	Arg	Glu	Arg	Leu	Tyr 410	Trp	Glu	Leu	Ser	Gln 415	Leu
Thr	Asn	Gly	11e 420	Lys	Glu	Leu	Gly	Pro 425	Tyr	Thr	Leu	Asp	Arg 430	Asn	Ser
Leu	Tyr	Val 435	Asn	Gly	Phe	Thr	His 440	Arg	Thr	Ser	Val	Pro 445	Thr	Ser	Ser
Thr	Pro 450	Gly	Thr	Ser	Thr	Val 455	Asp	Leu	Gly	Thr	Ser 460	Gly	Thr	Pro	Phe
Ser 465	Leu	Pro	Ser	Pro	Ala 470	Thr	Ala	Gly	Pro	Leu 475	Leu	Val	Leu	Phe	Thr 480
Leu	Asn	Phe	Thr	Ile 485	Thr	Asn	Leu	Lys	Tyr 490	Glu	Glu	Asp	Met	His 495	Arg
Pro	Gly	Ser	Arg 500	Lys	Phe	Asn	Thr	Thr 505	Glu	Arg	Val	Leu	Gln 510	Thr	Leu
Leu	Gly	Pro 515	Met	Phe	Lys	Asn	Thr 520	Ser	Val	Gly	Leu	Leu 525	Tyr	Ser	Gly
Cys	Arg 530	Leu	Thr	Leu	Leu	Arg 535	Ser	Glu	Lys	Asp	Gly 540	Ala	Ala	Thr	Gly
Val 545	Asp	Ala	Ile	Cys	Thr 550	His	Arg	Leu	Asp	Pro 555	Lys	Ser	Pro	Gly	Leu 560
Asp	Arg	Glu	Gln	Leu 565	Tyr	Trp	Glu	Leu	Ser 570	Gln	Leu	Thr	Asn	Gly 575	Ile
Lys	Glu	Leu	Gly 580	Pro	Tyr	Thr	Leu	Asp 585	Arg	Asn	Ser	Leu	Tyr 590	Val	Asn
Gly	Phe	Thr 595	His	Trp	Ile	Pro	Val 600	Pro	Thr	Ser	Ser	Thr 605	Pro	Gly	Thr
Ser	Thr 610	Val	Asp	Leu	Gly	Ser 615	Gly	Thr	Pro	Ser	Ser 620	Leu	Pro	Ser	Pro
Thr 625	Ala	Ala	Gly	Pro	Leu 630	Leu	Val	Pro	Phe	Thr 635	Leu	Asn	Phe	Thr	Ile 640
Thr	Asn	Leu	Gln	Tyr 645	Glu	Glu	Asp	Met	His 650	His	Pro	Gly	Ser	Arg 655	Lys
Phe	Asn	Thr	Thr 660	Glu	Arg	Val	Leu	Gln 665	Gly	Leù	Leu	Gly	Pro 670	Met	Phe
Lys	Asn	Thr 675	Ser	Val	Gly	Leu	Leu 680	Tyr	Ser	Gly	Cys	Arg 685	Leu	Thr	Leu

Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys  $690 \hspace{1.5cm} 695 \hspace{1.5cm} 700$ 

Thr His Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu 705 710 715 720

Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro 725 730 735

Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln 740  $\phantom{000}$  745  $\phantom{000}$  750

Thr Ser Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu 755 760 765

Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly 770 775 780

Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln 785 790 795 800

Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr 805 810 815

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 820 \$825\$

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Ser Glu 835 840 845

Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu 865 870 875

Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp 885 890 895

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr Ser Ala Pro 900 905 910

Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly 915 920 925

Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu Leu Val 930 935 940

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp 945 950 955

Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 965 970 975

Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu 980 985 990

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asn Gly Ala 995 1000 1005 Ala Thr Gly Met Asp Ala Ile Cys Ser His Arg Leu Asp Pro Lys 1015 Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln 1025 1030 Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg 1040 1045 Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser 1070 1075 Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala Val Pro Leu 1090 Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr 1100 1105 Gly Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr 1120 Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Leu Phe Lys Asn Ser 1130 1135 Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Ile Ser Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr 1160 His His Leu Asn Pro Gln Ser Pro Gly Leu Asp Arg Glu Gln Leu 1175 Tyr Trp Gln Leu Ser Gln Met Thr Asn Gly Ile Lys Glu Leu Gly 1190 Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr 1205 1210 His Arg Ser Ser Gly Leu Thr Thr Ser Thr Pro Trp Thr Ser Thr 1220 1225 1230 Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Pro Val Pro Ser Pro 1235 1240 Thr Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr 1250 1255 Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser 1265 1270 Arg Lys Phe Asn Ala Thr Glu Arg Val Leu Gln Gly Leu Leu Ser 1280 1285 1290

Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys

	1295					1300					1305			
Arg	Leu 1310	Thr	Ser	Leu	Arg	Pro 1315	Glu	Lys	Asp	Gly	Ala 1320	Ala	Thr	Gly
Met	Asp 1325	Ala	Val	Cys	Leu	Tyr 1330	His	Pro	Asn	Pro	Lys 1335	Arg	Pro	Gly
Leu	Asp 1340	Arg	Glu	Gln	Leu	Tyr 1345	Trp	Glu	Leu	Ser	Gln 1350	Leu	Thr	His
Asn	Ile 1355	Thr	Glu	Leu	Gly	Pro 1360	Tyr	Ser	Leu	Asp	Arg 1365	Asp	Ser	Leu
Tyr	Val 1370	Asn	Gly	Phe	Thr	His 1375	Gln	Asn	Ser	Val	Pro 1380	Thr	Thr	Ser
Thr	Pro 1385	Gly	Thr	Ser	Thr	Val 1390	Tyr	Trp	Ala	Thr	Thr 1395	Gly	Thr	Pro
Ser	Ser 1400	Phe	Pro	Gly	His	Thr 1405	Glu	Pro	Gly	Pro	Leu 1410	Leu	Ile	Pro
Phe	Thr 1415	Phe	Asn	Phe	Thr	Ile 1420	Thr	Asn	Leu	His	Tyr 1425	Glu	Glu	Asn
Met	Gln 1430	His	Pro	Gly	Ser	Arg 1435	Lys	Phe	Asn	Thr	Thr 1440	Glu	Arg	Va1
Leu	Gln 1445	Gly	Leu	Leu	Lys	Pro 1450	Leu	Phe	Lys	Asn	Thr 1455	Ser	Val	Gly
Pro	Leu 1460	Tyr	Ser	Gly	Cys	Arg 1465	Leu	Thr	Ser	Leu	Arg 1470	Pro	Glu	Lys
Asp	Gly 1475	Ala	Ala	Thr	Gly	Met 1480	Asp	Ala	Val	Cys	Leu 1485		His	Pro
Asn	Pro 1490	Lys	Arg	Pro	Gly	Leu 1495	Asp	Arg	Glu	Gln	Leu 1500		Cys	Glu
Leu	Ser 1505	Gln	Leu	Thr	His	Asn 1510	Ile	Thr	Glu	Leu	Gly 1515	Pro	Tyr	Ser
Leu	Asp 1520	Arg	Asp	Ser	Leu	Tyr 1525	Val	Asn	Gly	Phe	Thr 1530	His	Gln	Asn
Ser	Val 1535	Pro	Thr	Thr	Ser	Thr 1540	Pro	Gly	Thr	Ser	Thr 1545	Val	Tyr	Trp
Ala	Thr 1550	Thr	Gly	Thr	Pro	Ser 1555	Ser	Phe	Pro	Gly	His 1560	Thr	Glu	Pro
Gly	Pro 1565	Leu	Leu	Ile	Pro	Phe 1570	Thr	Phe	Asn	Phe	Thr 1575	Ile	Thr	Asn
Leu	His 1580	Tyr	Glu	Glu	Asn	Met 1585	Gln	His	Pro	Gly	Ser 1590	Arg	Lys	Phe

Asn	Thr 1595	Thr	Glu	Arg	Val	Leu 1600	Gln	Gly	Leu	Leu	Lys 1605	Pro	Leu	Phe
Lys	Asn 1610	Thr	Ser	Val	Gly	Pro 1615	Leu	Tyr	Ser	Gly	Cys 1620	Arg	Leu	Thr
Leu	Leu 1625	Arg	Pro	Glu	Lys	His 1630	Glu	Ala	Ala	Thr	Gly 1635	Val	Asp	Thr
Ile	Cys 1640	Thr	His	Arg	Val	Asp 1645	Pro	Ile	Gly	Pro	Gly 1650	Leu	Asp	Arg
Glu	Arg 1655	Leu	Tyr	Trp	Glu	Leu 1660	Ser	Gln	Leu	Thr	Asn 1665	Ser	Ile	Thr
Glu	Leu 1670	Gly	Pro	Tyr	Thr	Leu 1675	Asp	Arg	Asp	Ser	Leu 1680	Tyr	Val	Asn
Gly	Phe 1685	Asn	Pro	Arg	Ser	Ser 1690	Val	Pro	Thr	Thr	Ser 1695	Thr	Pro	Gly
Thr	Ser 1700	Thr	Val	His	Leu	Ala 1705	Thr	Ser	Gly	Thr	Pro 1710	Ser	Ser	Leu
Pro	Gly 1715	His	Thr	Ala	Pro	Val 1720	Pro	Leu	Leu	Ile	Pro 1725	Phe	Thr	Leu
Asn	Phe 1730		Ile	Thr	Asn	Leu 1735	His	Tyr	Glu	Glu	Asn 1740	Met	Gln	His
Pro	Gly 1745	Ser	Arg	Lys	Phe	Asn 1750	Thr	Thr	Glu	Arg	Val 1755	Leu	Gln	Gly
Leu	Leu 1760	Lys	Pro	Leu	Phe	Lys 1765	Asn	Thr	Ser	Val	Gly 1770	Pro	Leu	Tyr
Ser	Gly 1775		Arg	Leu	Thr	Leu 1780		Arg	Pro	Glu	Lys 1785	His	Glu	Ala
Ala	Thr 1790	Gly	Val	Asp	Thr	Ile 1795		Thr	His	Arg	Val 1800	Asp	Pro	Ile
Gly	Pro 1805	Gly	Leu	Asp	Arg	Glu 1810	Xaa	Leu	Tyr	Trp	Glu 1815	Leu	Ser	Xaa
Leu	Thr 1820	Xaa	Xaa	Ile	Xaa	Glu 1825	Leu	Gly	Pro	Tyr	Xaa 1830	Leu	Asp	Arg
Xaa	Ser 1835		Tyr	Val	Asn	Gly 1840		Xaa	Xaa	Xaa	Xaa 1845		Xaa	Xaa
Xaa	Thr 1850		Thr	Pro	Gly	Thr 1855	Ser	Xaa	Val	Xaa	Leu 1860	Xaa	Thr	Ser
Gly	Thr 1865		Xaa	Xaa	Xaa	Pro 1870		Xaa	Thr	Ser	Ala 1875	Gly	Pro	Leu
Leu	Val 1880		Phe	Thr	Leu	Asn 1885		Thr	Ile	Thr	Asn 1890		Gln	Tyr

- Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr 1900 1895 Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr 1915 1910 Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg 1925 1930 1935 Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser 1945 His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu 1960 1955 Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly 1975 Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr 1985 1990 His Arg Ser Ser Val Ala Pro Thr Ser Thr Pro Gly Thr Ser Thr 2005 Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro 2015 2020 Thr Thr Ala Val Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr 2035 Ile Thr Asn Leu Gln Tyr Gly Glu Asp Met Arg His Pro Gly Ser 2045 Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly 2060 Pro Leu Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys 2075 Arg Leu Ile Ser Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly 2095 Val Asp Ala Ile Cys Thr His His Leu Asn Pro Gln Ser Pro Gly 2105 2110 Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu Ser Gln Met Thr Asn
  - Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 2135

    Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu Thr Thr Ser 2150

    Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro

- Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro 2165 2170 2175
- Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Val Pro

	2180					2185					2190			
Phe	Thr 2195	Leu	Asn	Phe	Thr	Ile 2200	Thr	Asn	Leu	Gln	Tyr 2205	Glu	Glu	Asp
Met	His 2210	Arg	Pro	Gly	Ser	Arg 2215	Lys	Phe	Asn	Ala	Thr 2220	Glu	Arg	Val
Leu	Gln 2225	Gly	Leu	Leu	Ser	Pro 2230	Ile	Phe	Lys	Asn	ser 2235	Ser	Val	Gly
Pro	Leu 2240	Tyr	Ser	Gly	Cys	Arg 2245	Leu	Thr	Ser	Leu	Arg 2250	Pro	Glu	Lys
Asp	Gly 2255	Ala	Ala	Thr	Gly	Met 2260	Asp	Ala	Val	Cys	Leu 2265	Tyr	His	Pro
Asn	Pro 2270	Lys	Arg	Pro	Gly	Leu 2275	Asp	Arg	Glu	Gln	Leu 2280	Tyr	Trp	Glu
Leu	Ser 2285	Gln	Leu	Thr	His	Asn 2290	Ile	Thr	Glu	Leu	Gly 2295	Pro	Tyr	Ser
Leu	Asp 2300	Arg	Asp	Ser	Leu	Tyr 2305	Val	Asn	Gly	Phe	Thr 2310	His	Gln	Ser
Ser	Met 2315		Thr	Thr	Arg	Thr 2320		Asp	Thr	Ser	Thr 2325	Met	His	Leu
Ala	Thr 2330		Arg	Thr	Pro	Ala 2335	Ser	Leu	Ser	Gly	Pro 2340	Thr	Thr	Ala
Ser	Pro 2345		Leu	Val	Leu	Phe 2350	Thr	Ile	Asn	Cys	Thr 2355	Ile	Thr	Asn
Leu	Gln 2360		Glu	Glu	Asp	Met 2365	Arg	Arg	Thr	Gly	Ser 2370	Arg	Lys	Phe
Asn	Thr 2375		Glu	Ser	Val	Leu 2380		Gly	Leu	Leu	Lys 2385		Leu	Phe
Lys	Asn 2390		Ser	Val	Gly	Pro 2395		Tyr	Ser	Gly	Cys 2400		Leu	Thr
Leu	Leu 2405		Pro	Lys	Lys	Asp 2410	Gly	Ala	Ala	Thr	Gly 2415	Val	Asp	Ala
Ile	Cys 2420		His	Arg	Leu	Asp 2425		Lys	Ser	Pro	Gly 2430	Leu	Asn	Arg
Glu	Gln 2435		Tyr	Trp	Glu	Leu 2440		Lys	Leu	Thr	Asn 2445		Ile	Glu
Glu	Leu 2450		Pro	Tyr	Thr	Leu 2455	Asp	Arg	Asn	Ser	Leu 2460		Val	Asn
Gly	Phe 2465		His	Gln	Ser	Ser 2470		Ser	Thr	Thr	Ser 2475	Thr	Pro	Gly

Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser Leu 2485 2480 Ser Ser Pro Thr Ile Met Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe 2495 2500 Thr Leu Asn Phe Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met 2515 Xaa Xaa Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 2530 2525 Gln Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser Val Ser Ser 2545 Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp 2560 2555 Gly Ala Ala Thr Arg Val Asp Ala Ala Cys Thr Tyr Arg Pro Asp 2570 2575 Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 2585 2590 Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu 2600 Asp Arg Val Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser Ser 2615 Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala 2630 2635 Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val 2645 Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu 2665 2660 His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe Asn 2675 Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe Lys 2695 2690 Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu 2710 Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile 2730 Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu 2745 2740 Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu 2760 2755 Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly

2770

- Phe Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr 2780 2785 2790
- Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro 2795 2800 2805
- Gly His Thr Ala Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn 2810 2815 2820
- Phe Thr Ile Thr Asn Leu Gln Tyr Glu Val Asp Met Arg His Pro 2825 2835
- Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 2840  $\phantom{0}2845$   $\phantom{0}2850$
- Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser 2855 2860 2865
- Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala Ala 2870 2875 2880
- Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn 2885 2890 2895
- Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu 2900 2910
- Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly 2915 2920 2925
- Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile 2930 2935
- Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu 2945 2950 2955
- Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu 2960 2965 2970
- Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu 2975 2980 2985
- Glu Ala Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu 2990 2995 3000
- Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser 3005 3010 3015
- Ile Gly Pro Leu Tyr Ser Ser Cys Arg Leu Thr Leu Leu Arg Pro 3020 3025 3030
- Glu Lys Asp Lys Ala Ala Thr  $% \left( 1\right) =0$  Arg Val Asp Ala Ile Cys Thr His 3035  $% \left( 1\right) =0$  3045  $% \left( 1\right) =0$
- His Pro Asp Pro Gln Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr 3050 3055
- Trp Glu Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro

	3065					3070					3075			
Tyr	Thr 3080	Leu	Asp	Arg	Asp	Ser 3085	Leu	Tyr	Val	Asp	Gly 3090	Phe	Thr	His
Trp	Ser 3095	Pro	Ile	Pro	Thr	Thr 3100	Ser	Thr	Pro	Gly	Thr 3105	Ser	Ile	Val
Asn	Leu 3110	Gly	Thr	Ser	Gly	Ile 3115	Pro	Pro	Ser	Leu	Pro 3120	Glu	Thr	Thr
Xaa	Xaa 3125	Xaa	Pro	Leu	Leu	Xaa 3130	Pro	Phe	Thr	Leu	Asn 3135	Phe	Thr	Ile
Thr	Asn 3140	Leu	Xaa	Tyr	Glu	Glu 3145	Xaa	Met	Xaa	Xaa	Pro 3150	Gly	Ser	Arg
Lys	Phe 3155	Asn	Thr	Thr	Glu	Arg 3160	Val	Leu	Gln	Gly	Leu 3165	Leu	Lys	Pro
Leu	Phe 3170	Arg	Asn	Ser	Ser	Leu 3175	Glu	Tyr	Leu	Tyr	Ser 3180	Gly	Cys	Arg
Leu	Ala 3185	Ser	Leu	Arg	Pro	Glu 3190	Lys	Asp	Ser	Ser	Ala 3195	Met	Ala	Val
Asp	Ala 3200	Ile	Cys	Thr	His	Arg 3205	Pro	Asp	Pro	Glu	Asp 3210	Leu	Gly	Leu
Asp	Arg 3215	Glu	Arg	Leu	Tyr	Trp 3220	Glu	Leu	Ser	Asn	Leu 3225	Thr	Asn	Gly
Ile	Gln 3230	Glu	Leu	Gly	Pro	Tyr 3235	Thr	Leu	Asp	Arg	Asn 3240	Ser	Leu	Tyr
Val	Asn 3245	Gly	Phe	Thr	His	Arg 3250	Ser	Ser	Phe	Leu	Thr 3255	Thr	Ser	Thr
Pro	Trp 3260	Thr	Ser	Thr	Val	Asp 3265	Leu	Gly	Thr	Ser	Gly 3270	Thr	Pro	Ser
Pro	Val 3275	Pro	Ser	Pro	Thr	Thr 3280	Ala	Gly	Pro	Leu	Leu 3285	Val	Pro	Phe
Thr	Leu 3290	Asn	Phe	Thr	Ile	Thr 3295	Asn	Leu	Gln	Tyr	Glu 3300	Glu	Asp	Met
His	Arg 3305	Pro	Gly	Ser	Arg	Arg 3310	Phe	Asn	Thr	Thr	Glu 3315	Arg	Val	Leu
Gln	Gly 3320	Leu	Leu	Thr	Pro	Leu 3325	Phe	Lys	Asn	Thr	Ser 3330	Val	Gly	Pro
Leu	Tyr 3335	Ser	Gly	Cys	Arg	Leu 3340	Thr	Leu	Leu	Arg	Pro 3345	Glu	Lys	Gln
Glu	Ala 3350	Ala	Thr	Gly	Val	Asp 3355	Thr	Ile	Cys	Thr	His 3360	Arg	Val	Asp

Pro	Ile 3365	Gly	Pro	Gly	Leu	Asp 3370	Arg	Glu	Arg	Leu	Tyr 3375	Trp	Glu	Leu
Ser	Gln 3380	Leu	Thr	Asn	Ser	Ile 3385	Thr	Glu	Leu	Gly	Pro 3390	Tyr	Thr	Leu
Asp	Arg 3395	Asp	Ser	Leu	Tyr	Val 3400	Asn	Gly	Phe	Asn	Pro 3405	Trp	Ser	Ser
Val	Pro 3410	Thr	Thr	Ser	Thr	Pro 3415	Gly	Thr	Ser	Thr	Val 3420	His	Leu	Ala
Thr	Ser 3425	Gly	Thr	Pro	Ser	Ser 3430	Leu	Pro	Gly	His	Thr 3435	Ala	Pro	Val
Pro	Leu 3440	Leu	Ile	Pro	Phe	Thr 3445	Leu	Asn	Phe	Thr	Ile 3450	Thr	Asp	Leu
His	Tyr 3455	Glu	Glu	Asn	Met	Gln 3460	His	Pro	Gly	Ser	Arg 3465	Lys	Phe	Asn
Thr	Thr 3470	Glu	Arg	Val	Leu	Gln 3475	Gly	Leu	Leu	Lys	Pro 3480	Leu	Phe	Lys
Ser	Thr 3485	Ser	Val	Gly	Pro	Leu 3490	Tyr	Ser	Gly	Cys	Arg 3495	Leu	Thr	Leu
Leu	Arg 3500	Pro	Glu	Lys	His	Gly 3505	Ala	Ala	Thr	Gly	Val 3510	Asp	Ala	Ile
Cys	Thr 3515	Leu	Arg	Leu	Asp	Pro 3520	Thr	Gly	Pro	Gly	Leu 3525	Asp	Arg	Glu
Arg	Leu 3530	Tyr	Trp	Glu	Leu	Ser 3535	Gln	Leu	Thr	Asn	Ser 3540	Val	Thr	Glu
Leu	Gly 3545	Pro	Tyr	Thr	Leu	Asp 3550	Arg	Asp	Ser	Leu	Tyr 3555	Val	Asn	Gly
Phe	Thr 3560	His	Arg	Ser	Ser	Val 3565	Pro	Thr	Thr	Ser	Ile 3570	Pro	Gly	Thr
Ser	Ala 3575	Val	His	Leu	Glu	Thr 3580	Ser	Gly	Thr	Pro	Ala 3585	Ser	Leu	Pro
Gly	His 3590	Thr	Ala	Pro	Gly	Pro 3595	Leu	Leu	Val	Pro	Phe 3600	Thr	Leu	Asn
Phe	Thr 3605	Ile	Thr	Asn	Leu	Gln 3610	Tyr	Glu	Glu	Asp	Met 3615	Arg	His	Pro
Gly	Ser 3620	Arg	Lys	Phe	Ser	Thr 3625	Thr	Glu	Arg	Val	Leu 3630	Gln	Gly	Leu
Leu	Lys 3635	Pro	Leu	Phe	Lys	Asn 3640	Thr	Ser	Val	Ser	Ser 3645	Leu	Tyr	Ser
Gly	Cys 3650	Arg	Leu	Thr	Leu	Leu 3655	Arg	Pro	Glu	Lys	Asp 3660	Gly	Ala	Ala

Thr	Arg 3665	Val	Asp	Ala	Val	Cys 3670		His	Arg	Pro	Asp 3675	Pro	Lys	Ser
Pro	Gly 3680	Leu	Asp	Arg	Glu	Arg 3685	Leu	Tyr	Trp	Lys	Leu 3690	Ser	Gln	Leu
Thr	His 3695	Gly	Ile	Thr	Glu	Leu 3700	Gly	Pro	Tyr	Thr	Leu 3705	Asp	Arg	His
Ser	Leu 3710	Tyr	Val	Asn	Gly	Phe 3715	Thr	His	Gln	Ser	Ser 3720	Met	Thr	Thr
Thr	Arg 3725	Thr	Pro	Asp	Thr	Ser 3730	Thr	Met	His	Leu	Ala 3735	Thr	Ser	Arg
Thr	Pro 3740	Ala	Ser	Leu	Ser	Gly 37 <b>4</b> 5	Pro	Thr	Thr	Ala	Ser 3750	Pro	Leu	Leu
Val	Leu 3755	Phe	Thr	Ile	Asn	Phe 3760	Thr	Ile	Thr	Asn	Gln 3765	Arg	Tyr	Glu
Glu	Asn 3770	Met	His	His	Pro	Gly 3775	Ser	Arg	Lys	Phe	Asn 3780	Thr	Thr	Glu
Arg	Val 3785	Leu	Gln	Gly	Leu	Leu 3790	Arg	Pro	Val	Phe	Lys 3795	Asn	Thr	Ser
Val	Gly 3800	Pro	Leu	Tyr	Ser	Gly 3805	Cys	Arg	Leu	Thr	Leu 3810	Leu	Arg	Pro
Lys	Lys 3815	Asp	Gly	Ala	Ala	Thr 3820	Lys	Val	Asp	Ala	Ile 3825	Cys	Thr	Tyr
Arg	Pro 3830	Asp	Pro	Lys	Ser	Pro 3835	Gly	Leu	Asp	Arg	Glu 3840	Gln	Leu	Tyr
Trp	Glu 3845	Leu	Ser	Gln	Leu	Thr 3850	His	Ser	Ile	Thr	Glu 3855	Leu	Gly	Pro
Tyr	Thr 3860	Gln	Asp	Arg	Asp	Ser 3865	Leu	Tyr	Val	Asn	Gly 3870	Phe	Thr	His
Arg	Ser 3875	Ser	Val	Pro	Thr	Thr 3880	Ser	Ile	Pro	Gly	Thr 3885	Ser	Ala	Val
His	Leu 3890	Glu	Thr	Ser	Gly	Thr 3895	Pro	Ala	Ser	Leu	Pro 3900	Gly	His	Thr
Ala	Pro 3905	Gly	Pro	Leu	Leu	Val 3910	Pro	Phe	Thr	Leu	Asn 3915	Phe	Thr	Ile
Thr	Asn 3920	Leu	Gln	Tyr	Glu	G1u 3925	Asp	Met	Arg	His	Pro 3930	Gly	Ser	Arg
Lys	Phe 3935	Asn	Thr	Thr	Glu	Arg 3940	Val	Leu	Gln	Gly	Leu 3945	Leu	Lys	Pro
Leu	Phe	Lys	Ser	Thr	Ser	Val	Gly	Pro	Leu	Tyr	Ser	Gly	Cys	Arg

	3950					3955					3960			
Leu	Thr 3965	Leu	Leu	Arg	Pro	Glu 3970	Lys	Arg	Gly	Ala	Ala 3975	Thr	Gly	Val
Asp	Thr 3980	Ile	Суз	Thr	His	Arg 3985	Leu	Asp	Pro	Leu	Asn 3990	Pro	Gly	Leu
Asp	Arg 3995	Glu	Gln	Leu	Tyr	Trp 4000	Glu	Leu	Ser	Lys	Leu 4005	Thr	Arg	Gly
Ile	Ile 4010	Glu	Leu	Gly	Pro	Tyr 4015	Leu	Leu	Asp	Arg	Gly 4020	Ser	Leu	Tyr
Val	Asn 4025	Gly	Phe	Thr	His	Arg 4030	Thr	Ser	Val	Pro	Thr 4035	Thr	Ser	Thr
Pro	Gly 4040	Thr	Ser	Thr	Val	Asp 4045	Leu	Gly	Thr	Ser	Gly 4050	Thr	Pro	Phe
Ser	Leu 4055	Pro	Ser	Pro	Ala	Xaa 4060	Xaa	Xaa	Pro	Leu	Leu 4065	Xaa	Pro	Phe
Thr	Leu 4070	Asn	Phe	Thr	Ile	Thr 4075	Asn	Leu	Xaa	Tyr	Glu 4080	Glu	Xaa	Met
Xaa	Xaa 4085	Pro	Gly	Ser	Arg	Lys 4090	Phe	Asn	Thr	Thr	Glu 4095	Arg	Val	Leu
Gln	Thr 4100	Leu	Leu	Gly	Pro	Met 4105	Phe	Lys	Asn	Thr	Ser 4110	Val	Gly	Leu
Leu	Tyr 4115	Ser	Gly	Cys	Arg	Leu 4120	Thr	Leu	Leu	Arg	Ser 4125	Glu	Lys	Asp
Gly	Ala 4130	Ala	Thr	Gly	Val	Asp 4135	Ala	Ile	Cys	Thr	His 4140	Arg	Leu	Asp
Pro	Lys 4145	Ser	Pro	Gly	Val	Asp 4150	Arg	Glu	Gln	Leu	Tyr 4155	Trp	Glu	Leu
Ser	Gln 4160	Leu	Thr	Asn	Gly	Ile 4165	Lys	Glu	Leu	Gly	Pro 4170	Tyr	Thr	Leu
Asp	Arg 4175	Asn	Ser	Leu	Tyr	Val 4180	Asn	Gly	Phe	Thr	His 4185	Trp	Ile	Pro
Va <b>l</b>	Pro 4190	Thr	Ser	Ser	Thr	Pro 4195	Gly	Thr	Ser	Thr	Val 4200	Asp	Leu	Gly
Ser	Gly 4205	Thr	Pro	Ser	Leu	Pro 4210	Ser	Ser	Pro	Thr	Thr 4215	Ala	Gly	Pro
Leu	Leu 4220	Val	Pro	Phe	Thr	Leu 4225	Asn	Phe	Thr	Ile	Thr 4230	Asn	Leu	Lys
Tyr	Glu 4235	Glu	Asp	Met	His	Cys 4240	Pro	Gly	Ser	Arg	Lys 4245	Phe	Asn	Thr

Thr	Glu 4250	Arg	Val	Leu	Gln	Ser 4255	Leu	Leu	Gly	Pro	Met 4260	Phe	Lys	Asn
Thr	Ser 4265	Val	Gly	Pro	Leu	Tyr 4270	Ser	Gly	Cys	Arg	Leu 4275	Thr	Leu	Leu
Arg	Ser 4280	Glu	Lys	Asp	Gly	Ala 4285	Ala	Thr	Gly	Val	Asp 4290	Ala	Ile	Cys
Thr	His 4295	Arg	Leu	Asp	Pro	Lys 4300	Ser	Pro	Gly	Val	Asp 4305	Arg	Glu	Gln
Leu	Tyr 4310	Trp	Glu	Leu	Ser	Gln 4315	Leu	Thr	Asn	Gly	Ile 4320	Lys	Glu	Leu
Gly	Pro 4325	Tyr	Thr	Leu	Asp	Arg 4330	Asn	Ser	Leu	Tyr	Val 4335	Asn	Gly	Phe
Thr	His 4340	Gln	Thr	Ser	Ala	Pro 4345	Asn	Thr	Ser	Thr	Pro 4350	Gly	Thr	Ser
Thr	Val 4355	Asp	Leu	Gly	Thr	Ser 4360	Gly	Thr	Pro	Ser	Ser 4365	Leu	Pro	Ser
Pro	Thr 4370	Xaa	Xaa	Xaa	Pro	Leu 4375	Leu	Xaa	Pro	Phe	Thr 4380	Leu	Asn	Phe
Thr	Ile 4385	Thr	Asn	Leu	Xaa	Tyr 4390	Glu	Glu	Xaa	Met	Xaa 4395	Xaa	Pro	Gly
Ser	Arg 4400	Lys	Phe	Asn	Thr	Thr 4405	Glu	Arg	Val	Leu	Gln 4410	Gly	Leu	Leu
Xaa	Pro 4415	Xaa	Phe	Lys	Xaa	Thr 4420	Ser	Val	Gly	Xaa	Leu 4425	Tyr	Ser	Gly
Cys	Arg 4430	Leu	Thr	Leu	Leu	Arg 4435	Xaa	Glu	Lys	Xaa	Xaa 4440	Ala	Ala	Thr
Xaa	Val 4445	Asp	Xaa	Xaa	Cys	Xaa 4450	Xaa	Xaa	Xaa	Asp	Pro 4455	Xaa	Xaa	Pro
Gly	Leu 4460	Asp	Arg	Glu	Xaa	Leu 4465	Tyr	Trp	Glu	Leu	Ser 4470	Xaa	Leu	Thr
Xaa	Xaa 4475	Ile	Xaa	Glu	Leu	Gly 4480	Pro	Tyr	Xaa	Leu	Asp 4485	Arg	Xaa	Ser
Leu	Tyr 4490	Val	Asn	Gly	Phe	Thr 4495	His	Trp	Ile	Pro	Val 4500	Pro	Thr	Ser
Ser	Thr 4505	Pro	Gly	Thr	Ser	Thr 4510	Val	Asp	Leu	Gly	Ser 4515	Gly	Thr	Pro
Ser	Ser 4520	Leu	Pro	Ser	Pro	Thr 4525	Thr	Ala	Gly	Pro	Leu 4530	Leu	Val	Pro
Phe	Thr 4535	Leu	Asn	Phe	Thr	Ile 4540	Thr	Asn	Leu	Lys	Tyr 4545	Glu	Glu	Asp

4820

Met His Cys Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val 4555 Leu Gln Ser Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly 4570 4565 Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Ser Glu Lys 4585 4580 Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Val Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu 4610 Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr 4640 4645 Ser Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu 4660 Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala 4670 Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tvr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr 4730 Leu Leu Arg Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp Arg 4760 4765 Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa 4775 4780 Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn 4790 4795 Gly Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly 4805 4815 4810 Thr Ser Xaa Val Xaa Leu Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa

4825

Pro Xaa Xaa Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe Thr Leu

4830

	4835					4840					4845			
Asn	Phe 4850	Thr	Ile	Thr	Asn	Leu 4855	Xaa	Tyr	Glu	Glu	Xaa 4860	Met	Xaa	Xaa
Pro	Gly 4865	Ser	Arg	Lys	Phe	Asn 4870		Thr	Glu	Arg	Val 4875	Leu	Gln	Gly
Leu	Leu 4880	Lys	Pro	Leu	Phe	Arg 4885	Asn	Ser	Ser	Leu	Glu 4890	Tyr	Leu	Tyr
Ser	Gly 4895	Cys	Arg	Leu	Ala	Ser 4900	Leu	Arg	Pro	Glu	Lys 4905	Asp	Ser	Ser
Ala	Met 4910	Ala	Val	Asp	Ala	Ile 4915	Cys	Thr	His	Arg	Pro 4920	Asp	Pro	Glu
Asp	Leu 4925	Gly	Leu	Asp	Arg	Glu 4930	Arg	Leu	Tyr	Trp	Glu 4935	Leu	Ser	Asn
Leu	Thr 4940	Asn	Gly	Ile	Gln	Glu 4945	Leu	Gly	Pro	Tyr	Thr 4950	Leu	Asp	Arg
Asn	Ser 4955	Leu	Tyr	Val	Asn	Gly 4960		Thr	His	Arg	Ser 4965	Ser	Met	Pro
Thr	Thr 4970	Ser	Thr	Pro	Gly	Thr 4975	Ser	Thr	Val	Asp	Val 4980	Gly	Thr	Ser
Gly	Thr 4985	Pro	Ser	Ser	Ser	Pro 4990	Ser	Pro	Thr	Thr	Ala 4995	Gly	Pro	Leu
Leu	Ile 5000	Pro	Phe	Thr	Leu	Asn 5005	Phe	Thr	Ile	Thr	Asn 5010		Gln	Tyr
Gly	Glu 5015	Asp	Met	Gly	His	Pro 5020	Gly	Ser	Arg	Lys	Phe 5025	Asn	Thr	Thr
Glu	Arg 5030	Val	Leu	Gln	Gly	Leu 5035	Leu	Gly	Pro	Ile	Phe 5040	Lys	Asn	Thr
Ser	Val 5045	Gly	Pro	Leu	Tyr	Ser 5050	Gly	Cys	Arg	Leu	Thr 5055	Ser	Leu	Arg
Ser	Glu 5060	Lys	Asp	Gly	Ala	Ala 5065	Thr	Gly	Val	Asp	Ala 5070	Ile	Cys	Ile
His	His 5075	Leu	Asp	Pro	Lys	Ser 5080	Pro	Gly	Leu	Asn	Arg 5085	Glu	Arg	Leu
Tyr	Trp 5090	Glu	Leu	Ser	Gln	Leu 5095	Thr	Asn	Gly	Ile	Lys 5100	Glu	Leu	Gly
Pro	Tyr 5105	Thr	Leu	Asp	Arg	Asn 5110	Ser	Leu	Tyr	Val	Asn 5115	Gly	Phe	Thr
His	Arg 5120	Thr	Ser	Val	Pro	Thr 5125		Ser	Thr	Pro	Gly 5130	Thr	Ser	Thr

Val	Asp 5135	Leu	Gly	Thr	Ser	Gly 5140	Thr	Pro	Phe	Ser	Leu 5145	Pro	Ser	Pro
Ala	Thr 5150	Ala	Gly	Pro	Leu	Leu 5155	Val	Leu	Phe	Thr	Leu 5160	Asn	Phe	Thr
Ile	Thr 5165	Asn	Leu	Lys	Tyr	Glu 5170	Glu	Asp	Met	His	Arg 5175	Pro	Gly	Ser
Arg	Lys 5180	Phe	Asn	Thr	Thr	Glu 5185	Arg	Val	Leu	Gln	Thr 5190	Leu	Leu	Gly
Pro	Met 5195	Phe	Lys	Asn	Thr	Ser 5200	Val	Gly	Leu	Leu	Tyr 5205	Ser	Gly	Cys
Arg	Leu 5210	Thr	Leu	Leu	Arg	Ser 5215	Glu	Lys	Asp	Gly	Ala 5220	Ala	Thr	Gly
Val	Asp 5225	Ala	Ile	Cys	Thr	His 5230	Arg	Leu	Asp	Pro	Lys 5235	Ser	Pro	Gly
Leu	Asp 5240	Arg	Glu	Хаа	Leu	Tyr 5245	Trp	Glu	Leu	Ser	Xaa 5250	Leu	Thr	Xaa
Xaa	Ile 5255	Xaa	Glu	Leu	Gly	Pro 5260	Tyr	Xaa	Leu	Asp	Arg 5265	Xaa	Ser	Leu
Tyr	Val 5270	Asn	Gly	Phe	Xaa	Xaa 5275	Xaa	Xaa	Xaa	Xaa	Xaa 5280	Xaa	Thr	Ser
Thr	Pro 5285	Gly	Thr	Ser	Xaa	Val 5290	Xaa	Leu	Xaa	Thr	Ser 5295	Gly	Thr	Pro
Xaa	Xaa 5300	Xaa	Pro	Xaa	Xaa	Thr 5305	Xaa	Xaa	Xaa	Pro	Leu 5310	Leu	Xaa	Pro
Phe	Thr 5315	Leu	Asn	Phe	Thr	Ile 5320	Thr	Asn	Leu	Xaa	Tyr 5325	Glu	Glu	Xaa
Met	Xaa 5330	Xaa	Pro	Gly	Ser	Arg 5335	Lys	Phe	Asn	Thr	Thr 5340	Glu	Arg	Val
Leu	Gln 5345	Gly	Leu	Leu	Arg	Pro 5350	Val	Phe	Lys	Asn	Thr 5355	Ser	Val	Gly
Pro	Leu 5360	Tyr	Ser	Gly	Cys	Arg 5365	Leu	Thr	Leu	Leu	Arg 5370	Pro	Lys	Lys
Asp	Gly 5375	Ala	Ala	Thr	Lys	Val 5380	Asp	Ala	Ile	Суз	Thr 5385	Tyr	Arg	Pro
Asp	Pro 5390	Lys	Ser	Pro	Gly	Leu 5395	Asp	Arg	Glu	Gln	Leu 5400	Tyr	Trp	Glu
Leu	Ser 5405	Gln	Leu	Thr	His	Ser 5410	Ile	Thr	Glu	Leu	Gly 5415	Pro	Tyr	Thr
Gln	Asp 5420	Arg	Asp	Ser	Leu	Tyr 5425	Val	Asn	Gly	Phe	Thr 5430	His	Arg	Ser

- Glu Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro 5450 5460
- Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr Asn 5465  $\phantom{0}5470$   $\phantom{0}5475$
- Leu Arg Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe 5480 5485 5490
- Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Thr Pro Leu Phe  $5495 \hspace{1.5cm} 5500 \hspace{1.5cm} 5505$
- Leu Leu Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly Val Asp Thr 5525 5530 5535
- Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg 5540 5550
- Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr 5555 5560 5565
- Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asp
- Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly 5585 5590 5595
- Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Pro Leu 5600  $\phantom{0}5605$  Thr Ser Gly Thr Pro Ser Pro Leu
- Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu 5615  $\phantom{0}5620$   $\phantom{0}5625$
- Asn Phe Thr Ile Thr Asp Leu His Tyr Glu Glu Asn Met Gln His 5630 5640
- Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly 5645 5650 5655
- Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr 5660 5665 5670
- Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala 5675 5680 5685
- Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr 5690 5695 5700
- Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln 5705 5710 5715
- Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg

	5720					5725					5730			
Asp	Ser 5735	Leu	Tyr	Val	Asn	Gly 5740	Phe	Asn	Pro	Trp	Ser 5745	Ser	Val	Pro
Thr	Thr 5750	Ser	Thr	Pro	Gly	Thr 5755	Ser	Thr	Val	His	Leu 5760	Ala	Thr	Ser
Gly	Thr 5765	Pro	Ser	Ser	Leu	Pro 5770	Gly	His	Thr	Thr	Ala 5775	Gly	Pro	Leu
Leu	Val 5780	Pro	Phe	Thr	Leu	Asn 5785	Phe	Thr	Ile	Thr	Asn 5790	Leu	Lys	Tyr
Glu	Glu 5795	Asp	Met	His	Cys	Pro 5800	Gly	Ser	Arg	Lys	Phe 5805	Asn	Thr	Thr
Glu	Arg 5810	Val	Leu	Gln	Ser	Leu 5815	His	Gly	Pro	Met	Phe 5820	Lys	Asn	Thr
Ser	Val 5825	Gly	Pro	Leu	Tyr	Ser 5830	Gly	Cys	Arg	Leu	Thr 5835	Leu	Leu	Arg
Ser	Glu 5840	Lys	Asp	Gly	Ala	Ala 5845	Thr	Gly	Val	Asp	Ala 5850	Ile	Cys	Thr
His	Arg 5855	Leu	Asp	Pro	Lys	Ser 5860	Pro	Gly	Leu	Asp	Arg 5865	Glu	Xaa	Leu
Tyr	Trp 5870	Glu	Leu	Ser	Xaa	Leu 5875	Thr	Xaa	Xaa	Ile	Xaa 5880	Glu	Leu	Gly
Pro	Tyr 5885	Xaa	Leu	Asp	Arg	Xaa 5890		Leu	Tyr	Val	Asn 5895	Gly	Phe	Xaa
Xaa	Xaa 5900	Xaa	Xaa	Xaa	Xaa	Xaa 5905	Thr	Ser	Thr	Pro	Gly 5910	Thr	Ser	Xaa
Val	Xaa 5915	Leu	Xaa	Thr	Ser	Gly 5920	Thr	Pro	Xaa	Xaa	Xaa 5925	Pro	Xaa	Xaa
Thr	Xaa 5930	Xaa	Xaa	Pro	Leu	Leu 5935	Xaa	Pro	Phe	Thr	Leu 5940	Asn	Phe	Thr
Ile	Thr 5945	Asn	Leu	Xaa	Tyr	Glu 5950	Glu	Xaa	Met	Xaa	Xaa 5955	Pro	Gly	Ser
Arg	Lys 5960	Phe	Asn	Thr	Thr	Glu 5965	Arg	Val	Leu	Gln	Gly 5970	Leu	Leu	Xaa
Pro	Xaa 5975	Phe	Lys	Xaa	Thr	Ser 5980	Val	Gly	Xaa	Leu	Tyr 5985	Ser	Gly	Cys
Arg	Leu 5990	Thr	Leu	Leu	Arg	Xaa 5995	Glu	Lys	Xaa	Xaa	Ala 6000	Ala	Thr	Xaa
Val	Asp 6005	Xaa	Xaa	Cys	Xaa	Xaa 6010	Xaa	Xaa	Asp	Pro	Xaa 6015	Xaa	Pro	Gly

Leu	Asp 6020	Arg	Glu	Xaa	Leu	Tyr 6025	Trp	Glu	Leu	Ser	Xaa 6030	Leu	Thr	Asn
Ser	Ile 6035	Thr	Glu	Leu	Gly	Pro 6040	Tyr	Thr	Leu	Asp	Arg 6045	Asp	Ser	Leu
Tyr	Val 6050	Asn	Gly	Phe	Thr	His 6055	Arg	Ser	Ser	Met	Pro 6060	Thr	Thr	Ser
Île	Pro 6065	Gly	Thr	Ser	Ala	Val 6070	His	Leu	Glu	Thr	Ser 6075	Gly	Thr	Pro
Ala	Ser 6080	Leu	Pro	Gly	His	Thr 6085	Ala	Pro	Gly	Pro	Leu 6090	Leu	Val	Pro
Phe	Thr 6095	Leu	Asn	Phe	Thr	Ile 6100		Asn	Leu	Gln	Tyr 6105	Glu	Glu	Asp
Met	Arg 6110	His	Pro	Gly	Ser	Arg 6115	Lys	Phe	Asn	Thr	Thr 6120	Glu	Arg	Val
Leu	Gln 6125	Gly	Leu	Leu	Lys	Pro 6130		Phe	Lys	Ser	Thr 6135	Ser	Val	Gly
Pro	Leu 6140	Tyr	Ser	Gly	Cys	Arg 6145		Thr	Leu	Leu	Arg 6150	Pro	Glu	Lys
Arg	Gly 6155	Ala	Ala	Thr	Gly	Val 6160	Asp	Thr	Ile	Cys	Thr 6165	His	Arg	Leu
Asp	Pro 6170	Leu	Asn	Pro	Gly	Leu 6175	Asp	Arg	Glu	Xaa	Leu 6180	Tyr	Trp	Glu
Leu	Ser 6185	Xaa	Leu	Thr	Xaa	Xaa 6190		Xaa	Glu	Leu	Gly 6195	Pro	Tyr	Xaa
Leu	Asp 6200	Arg	Xaa	Ser	Leu	Tyr 6205		Asn	Gly	Phe	Xaa 6210	Xaa	Xaa	Xaa
Xaa	Xaa 6215	Xaa	Xaa	Thr	Ser	Thr 6220	Pro	Gly	Thr	Ser	Xaa 6225	Val	Xaa	Leu
Xaa	Thr 6230	Ser	Gly	Thr	Pro	Xaa 6235		Xaa	Pro	Xaa	Xaa 6240	Thr	Xaa	Xaa
Xaa	Pro 6245	Leu	Leu	Xaa	Pro	Phe 6250		Leu	Asn	Phe	Thr 6255	Ile	Thr	Asn
Leu	Xaa 6260	Tyr	Glu	Glu	Xaa	Met 6265	Xaa	Xaa	Pro	Gly	Ser 6270	Arg	Lys	Phe
Asn	Thr 6275	Thr	Glu	Arg	Val	Leu 6280	Gln	Gly	Leu	Leu	Xaa 6285	Pro	Xaa	Phe
Lys	Xaa 6290		Ser	Val	Gly	Xaa 6295	Leu	Tyr	Ser	Gly	Cys 6300	Arg	Leu	Thr
Leu	Leu 6305	Arg	Xaa	Glu	Lys	Xaa 6310	Xaa	Ala	Ala	Thr	Xaa 6315	Val	Asp	Xaa

Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Pro Gly Leu Asp Arg 6320 6325 Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa 6335 6340 Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn 6350 6355 6360 Gly Phe His Pro Arg Ser Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu 6380 Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu 6400 Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn Met Gln His 6415 6410 Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly 6430 Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr 6440 Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asn Gly Ala 6460 Ala Thr Gly Met Asp Ala Ile Cys Ser His Arg Leu Asp Pro Lys 6470 6475 Ser Pro Gly Leu Asp Arq Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa 6490 Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg 6500 Xaa Ser Leu Tyr Val Asn Gly Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly Thr Ser Xaa Val Xaa Leu Xaa Thr Ser 6530 6535 Gly Thr Pro Xaa Xaa Xaa Pro Xaa Xaa Thr Xaa Xaa Xaa Pro Leu 6545 6550 Leu Xaa Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Xaa Tyr 6560 6565 Glu Glu Xaa Met Xaa Xaa Pro Gly Ser Arg Lys Phe Asn Thr Thr 6575 6580 Glu Arg Val Leu Gln Glv Leu Leu Xaa Pro Xaa Phe Lvs Xaa Thr 6590 6595 6600

Ser Val Gly Xaa Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg

	6605					6610					6615			
Xaa	Glu 6620	Lys	Xaa	Xaa	Ala	Ala 6625	Thr	Xaa	Val	Asp	Xaa 6630	Xaa	Cys	Xaa
Xaa	Xaa 6635	Xaa	Asp	Pro	Xaa	Xaa 6640	Pro	Gly	Leu	Asp	Arg 6645	Glu	Xaa	Leu
Tyr	Trp 6650	Glu	Leu	Ser	Xaa	Leu 6655	Thr	Xaa	Xaa	Ile	Xaa 6660	Glu	Leu	Gly
Pro	Tyr 6665	Xaa	Leu	Asp	Arg	Xaa 6670	Ser	Leu	Tyr	Val	Asn 6675	Gly	Phe	Thr
His	Gln 6680	Asn	Ser	Val	Pro	Thr 6685	Thr	Ser	Thr	Pro	Gly 6690	Thr	Ser	Thr
Va1	Tyr 6695	Trp	Ala	Thr	Thr	Gly 6700	Thr	Pro	Ser	Ser	Phe 6705	Pro	Gly	His
Thr	Glu 6710	Pro	Gly	Pro	Leu	Leu 6715	Ile	Pro	Phe	Thr	Phe 6720	Asn	Phe	Thr
Ile	Thr 6725	Asn	Leu	His	Tyr	Glu 6730	Glu	Asn	Met	Gln	His 6735	Pro	Gly	Ser
Arg	Lys 6740	Phe	Asn	Thr	Thr	Glu 6745	Arg	Val	Leu	Gln	Gly 6750	Leu	Leu	Thr
Pro	Leu 6755	Phe	Lys	Asn	Thr	Ser 6760	Val	Gly	Pro	Leu	Tyr 6765	Ser	Gly	Cys
Arg	Leu 6770	Thr	Leu	Leu	Arg	Pro 6775	Glu	Lys	Gln	Glu	Ala 6780	Ala	Thr	Gly
Val	Asp 6785	Thr	Ile	Cys	Thr	His 6790	Arg	Val	Asp	Pro	Ile 6795	Gly	Pro	Gly
Leu	Asp 6800	Arg	Glu	Xaa	Leu	Tyr 6805	Trp	Glu	Leu	Ser	Xaa 6810	Leu	Thr	Xaa
Xaa	Ile 6815	Xaa	Glu	Leu	Gly	Pro 6820	Tyr	Xaa	Leu	Asp	Arg 6825	Xaa	Ser	Leu
Tyr	Val 6830	Asn	Gly	Phe	Xaa	Xaa 6835	Xaa	Xaa	Xaa	Xaa	Xaa 6840	Xaa	Thr	Ser
Thr	Pro 6845	Gly	Thr	Ser	Xaa	Val 6850	Xaa	Leu	Xaa	Thr	Ser 6855	Gly	Thr	Pro
Xaa	Xaa 6860	Xaa	Pro	Xaa	Xaa	Thr 6865	Xaa	Xaa	Xaa	Pro	Leu 6870	Leu	Xaa	Pro
Phe	Thr 6875	Leu	Asn	Phe	Thr	Ile 6880	Thr	Asn	Leu	Xaa	Tyr 6885	Glu	Glu	Xaa
Met	Xaa 6890	Xaa	Pro	Gly	Ser	Arg 6895	Lys	Phe	Asn	Thr	Thr 6900	Glu	Arg	Val

Leu	Gln 6905	Gly	Leu	Leu	Xaa	Pro 6910	Xaa	Phe	Lys	Xaa	Thr 6915	Ser	Val	Gly
Xaa	Leu 6920	Tyr	Ser	Gly	Cys	Arg 6925	Leu	Thr	Leu	Leu	Arg 6930	Xaa	Glu	Lys
Xaa	Xaa 6935	Ala	Ala	Thr	Xaa	Val 6940	Asp	Xaa	Xaa	Cys	Xaa 6945	Xaa	Xaa	Xaa
Asp	Pro 6950	Xaa	Xaa	Pro	Gly	Leu 6955	Asp	Arg	Glu	Xaa	Leu 6960	Tyr	Trp	Glu
Leu	Ser 6965	Xaa	Leu	Thr	Xaa	Xaa 6970	Ile	Xaa	Glu	Leu	Gly 6975	Pro	Tyr	Xaa
Leu	Asp 6980	Arg	Xaa	Ser	Leu	Tyr 6985	Val	Asn	Gly	Phe	Thr 6990	His	Arg	Ser
Ser	Val 6995	Pro	Thr	Thr	Ser	Ser 7000	Pro	Gly	Thr	Ser	Thr 7005	Val	His	Leu
Ala	Thr 7010	Ser	Gly	Thr	Pro	Ser 7015	Ser	Leu	Pro	Gly	His 7020	Thr	Ala	Pro
Val	Pro 7025	Leu	Leu	Ile	Pro	Phe 7030	Thr	Leu	Asn	Phe	Thr 7035	Ile	Thr	Asn
Leu	His 7040	Tyr	Glu	Glu	Asn	Met 7045	Gln	His	Pro	Gly	Ser 7050	Arg	Lys	Phe
Asn	Thr 7055	Thr	Glu	Arg	Val	Leu 7060	Gln	Gly	Leu	Leu	Lys 7065	Pro	Leu	Phe
Lys	Ser 7070	Thr	Ser	Val	Gly	Pro 7075	Leu	Tyr	Ser	Gly	Cys 7080	Arg	Leu	Thr
Leu	Leu 7085	Arg	Pro	Glu	Lys	His 7090	Gly	Ala	Ala	Thr	Gly 7095	Val	Asp	Ala
Ile	Cys 7100	Thr	Leu	Arg	Leu	Asp 7105	Pro	Thr	Gly	Pro	Gly 7110	Leu	Asp	Arg
Glu	Xaa 7115	Leu	Tyr	Trp	Glu	Leu 7120	Ser	Xaa	Leu	Thr	Xaa 7125	Xaa	Ile	Xaa
Glu	Leu 7130	Gly	Pro	Tyr	Xaa	Leu 7135	Asp	Arg	Xaa	Ser	Leu 7140	Tyr	Val	Asn
Gly	Phe 7145	Xaa	Xaa	Xaa	Xaa	Xaa 7150	Xaa	Xaa	Xaa	Thr	Ser 7155	Thr	Pro	Gly
Thr	Ser 7160	Xaa	Val	Xaa	Leu	Xaa 7165	Thr	Ser	Gly	Thr	Pro 7170	Xaa	Xaa	Xaa
Pro	Xaa 7175	Xaa	Thr	Xaa	Xaa	Xaa 7180	Pro	Leu	Leu	Xaa	Pro 7185	Phe	Thr	Leu
Asn	Phe 7190	Thr	Ile	Thr	Asn	Leu 7195	Xaa	Tyr	Glu	Glu	Xaa 7200	Met	Xaa	Xaa

Pro	Gly 7205	Ser	Arg	Lys	Phe	Asn 7210	Thr	Thr	Glu	Arg	Val 7215	Leu	Gln	Gly
Leu	Leu 7220	Xaa	Pro	Xaa	Phe	Lys 7225	Xaa	Thr	Ser	Val	Gly 7230	Xaa	Leu	Tyr
Ser	Gly 7235	Cys	Arg	Leu	Thr	Leu 7240	Leu	Arg	Xaa	Glu	Lys 7245	Xaa	Xaa	Ala
Ala	Thr 7250	Xaa	Val	Asp	Xaa	Xaa 7255	Cys	Xaa	Xaa	Xaa	Xaa 7260	Asp	Pro	Хаа
Xaa	Pro 7265	Gly	Leu	Asp	Arg	Glu 7270	Xaa	Leu	Tyr	Trp	Glu 7275	Leu	Ser	Xaa
Leu	Thr 7280	Хаа	Xaa	Ile	Xaa	Glu 7285	Leu	Gly	Pro	Tyr	Xaa 7290	Leu	Asp	Arg
Xaa	Ser 7295	Leu	Tyr	Val	Asn	Gly 7300	Phe	Thr	His	Arg	Thr 7305	Ser	Val	Pro
Thr	Thr 7310	Ser	Thr	Pro	Gly	Thr 7315	Ser	Thr	Val	His	Leu 7320	Ala	Thr	Ser
Gly	Thr 7325	Pro	Ser	Ser	Leu	Pro 7330	Gly	His	Thr	Ala	Pro 7335	Val	Pro	Leu
Leu	Ile 7340	Pro	Phe	Thr	Leu	Asn 7345	Phe	Thr	Ile	Thr	Asn 7350		Gln	Tyr
Glu	Glu 7355	Asp	Met	His	Arg	Pro 7360	Gly	Ser	Arg	Lys	Phe 7365	Asn	Thr	Thr
Glu	Arg 7370	Val	Leu	Gln	Gly	Leu 7375	Leu	Ser	Pro	Ile	Phe 7380	Lys	Asn	Ser
Ser	Val 7385	Gly	Pro	Leu	Tyr	Ser 7390	Gly	Cys	Arg	Leu	Thr 7395	Ser	Leu	Arg
Pro	Glu 7400	Lys	Asp	Gly	Ala	Ala 7405	Thr	Gly	Met	Asp	Ala 7410	Val	Суз	Leu
Tyr	His 7415	Pro	Asn	Pro	Lys	Arg 7420		Gly	Leu	Asp	Arg 7425	Glu	Gln	Leu
Tyr	Cys 7430		Leu	Ser	Gln	Leu 7435	Thr	His	Asn	Ile	Thr 7440	Glu	Leu	Gly
Pro	Tyr 7445	Ser	Leu	Asp	Arg	Asp 7450	Ser	Leu	Tyr	Val	Asn 7455	Gly	Phe	Thr
His	Gln 7460	Asn	Ser	Val	Pro	Thr 7465	Thr	Ser	Thr	Pro	Gly 7470	Thr	Ser	Thr
Val	Tyr 7475	Trp	Ala	Thr	Thr	Gly 7480		Pro	Ser	Ser	Phe 7485	Pro	Gly	His

Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe Thr Leu Asn Phe Thr

	7490					7495					7500			
Ile	Thr 7505	Asn	Leu	Xaa	Tyr	Glu 7510	Glu	Xaa	Met	Хаа	Xaa 7515	Pro	Gly	Ser
Arg	Lys 7520	Phe	Asn	Thr	Thr	Glu 7525	Arg	Val	Leu	Gln	Gly 7530	Leu	Leu	Xaa
Pro	Xaa 7535	Phe	Lys	Xaa	Thr	Ser 7540	Val	Gly	Xaa	Leu	Tyr 7545	Ser	Gly	Cys
Arg	Leu 7550	Thr	Leu	Leu	Arg	Xaa 7555	Glu	Lys	Xaa	Xaa	Ala 7560	Ala	Thr	Xaa
Val	Asp 7565	Xaa	Xaa	Cys	Xaa	Xaa 7570	Xaa	Xaa	Asp	Pro	Xaa 7575	Xaa	Pro	Gly
Leu	Asp 7580	Arg	Glu	Xaa	Leu	Tyr 7585	Trp	Glu	Leu	Ser	Xaa 7590	Leu	Thr	Xaa
Xaa	Ile 7595	Xaa	Glu	Leu	Gly	Pro 7600	Tyr	Xaa	Leu	Asp	Arg 7605	Xaa	Ser	Leu
Tyr	Val 7610	Asn	Gly	Phe	Thr	His 7615	Trp	Ser	Ser	Gly	Leu 7620	Thr	Thr	Ser
Thr	Pro 7625	Trp	Thr	Ser	Thr	Val 7630	Asp	Leu	Gly	Thr	Ser 7635	Gly	Thr	Pro
Ser	Pro 7640	Val	Pro	Ser	Pro	Thr 7645	Thr	Ala	Gly	Pro	Leu 7650	Leu	Va1	Pro
Phe	Thr 7655	Leu	Asn	Phe	Thr	Ile 7660	Thr	Asn	Leu	Gln	Tyr 7665	Glu	Glu	Asp
Met	His 7670	Arg	Pro	Gly	Ser	Arg 7675	Lys	Phe	Asn	Ala	Thr 7680	Glu	Arg	Val
Leu	Gln 7685	Gly	Leu	Leu	Ser	Pro 7690	Ile	Phe	Lys	Asn	Thr 7695	Ser	Va1	Gly
Pro	Leu 7700	Tyr	Ser	Gly	Cys	Arg 7705	Leu	Thr	Leu	Leu	Arg 7710	Pro	Glu	Lys
Gln	Glu 7715	Ala	Ala	Thr	Gly	Val 7720	Asp	Thr	Ile	Cys	Thr 7725	His	Arg	Val
Asp	Pro 7730	Ile	Gly	Pro	Gly	Leu 7735	Asp	Arg	Glu	Xaa	Leu 7740	Tyr	Trp	Glu
Leu	Ser 7745	Xaa	Leu	Thr	Xaa	Xaa 7750	Ile	Xaa	Glu	Leu	Gly 7755	Pro	Tyr	Xaa
Leu	Asp 7760	Arg	Xaa	Ser	Leu	Tyr 7765	Val	Asn	Gly	Phe	Xaa 7770	Xaa	Xaa	Xaa
Xaa	Xaa 7775	Xaa	Xaa	Thr	Ser	Thr 7780	Pro	Gly	Thr	Ser	Xaa 7785	Val	Xaa	Leu

Xaa	Thr 7790	Ser	Gly	Thr	Pro	Xaa 7795	Xaa	Xaa	Pro	Xaa	Xaa 7800	Thr	Xaa	Xaa
Xaa	Pro 7805	Leu	Leu	Xaa	Pro	Phe 7810	Thr	Leu	Asn	Phe	Thr 7815	Ile	Thr	Asn
Leu	Xaa 7820	Tyr	Glu	Glu	Xaa	Met 7825	Xaa	Xaa	Pro	Gly	Ser 7830	Arg	Lys	Phe
Asn	Thr 7835	Thr	Glu	Arg	Val	Leu 7840	Gln	Gly	Leu	Leu	Xaa 7845	Pro	Xaa	Phe
Lys	Xaa 7850	Thr	Ser	Val	Gly	Xaa 7855	Leu	Tyr	Ser	Gly	Cys 7860	Arg	Leu	Thr
Leu	Leu 7865	Arg	Xaa	Glu	Lys	Xaa 7870	Xaa	Ala	Ala	Thr	Xaa 7875	Val	Asp	Xaa
Xaa	Cys 7880	Xaa	Xaa	Xaa	Xaa	Asp 7885	Pro	Xaa	Xaa	Pro	Gly 7890	Leu	Asp	Arg
Glu	Xaa 7895	Leu	Tyr	Trp	Glu	Leu 7900	Ser	Xaa	Leu	Thr	Xaa 7905	Xaa	Ile	Xaa
Glu	Leu 7910	Gly	Pro	Tyr	Xaa	Leu 7915	Asp	Arg	Xaa	Ser	Leu 7920	Tyr	Val	Asn
Gly	Phe 7925	Thr	His	Arg	Ser	Phe 7930	Gly	Leu	Thr	Thr	Ser 7935	Thr	Pro	Trp
Thr	Ser 7940	Thr	Val	Asp	Leu	Gly 7945	Thr	Ser	Gly	Thr	Pro 7950	Ser	Pro	Val
Pro	Ser 7955	Pro	Thr	Thr	Ala	Gly 7960	Pro	Leu	Leu	Val	Pro 7965	Phe	Thr	Leu
Asn	Phe 7970	Thr	Ile	Thr	Asn	Leu 7975	Gln	Tyr	Glu	Glu	Asp 7980	Met	His	Arg
Pro	Gly 7985	Ser	Arg	Lys	Phe	Asn 7990	Thr	Thr	Glu	Arg	Val 7995	Leu	Gln	Gly
Leu	Leu 8000	Thr	Pro	Leu	Phe	Arg 8005	Asn	Thr	Ser	Val	Ser 8010	Ser	Leu	Tyr
Ser	Gly 8015	Cys	Arg	Leu	Thr	Leu 8020	Leu	Arg	Pro	Glu	Lys 8025	Asp	Gly	Ala
Ala	Thr 8030	Arg	Val	Asp	Ala	Val 8035	Cys	Thr	His	Arg	Pro 8040	Asp	Pro	Lys
Ser	Pro 8045	Gly	Leu	Asp	Arg	Glu 8050	Xaa	Leu	Tyr	Trp	Glu 8055	Leu	Ser	Xaa
Leu	Thr 8060	Xaa	Xaa	Ile	Xaa	Glu 8065	Leu	Gly	Pro	Tyr	Xaa 8070	Leu	Asp	Arg
Xaa	Ser 8075	Leu	Tyr	Val	Asn	Gly 8080		Xaa	Xaa	Xaa	Xaa 8085	Xaa	Xaa	Xaa

Xaa	Thr 8090	Ser	Thr	Pro	Gly	Thr 8095	Ser	Xaa	Val	Xaa	Leu 8100	Xaa	Thr	Ser
Gly	Thr 8105	Pro	Xaa	Xaa	Xaa	Pro 8110	Xaa	Xaa	Thr	Xaa	Xaa 8115	Xaa	Pro	Leu
Leu	Xaa 8120	Pro	Phe	Thr	Leu	Asn 8125	Phe	Thr	Ile	Thr	Asn 8130	Leu	Xaa	Tyr
Glu	Glu 8135	Xaa	Met	Xaa	Xaa	Pro 8140	Gly	Ser	Arg	Lys	Phe 8145	Asn	Thr	Thr
Glu	Arg 8150	Val	Leu	Gln	Gly	Leu 8155	Leu	Xaa	Pro	Xaa	Phe 8160	Lys	Xaa	Thr
Ser	Val 8165	Gly	Xaa	Leu	Tyr	Ser 8170		Cys	Arg	Leu	Thr 8175	Leu	Leu	Arg
Xaa	Glu 8180	Lys	Xaa	Xaa	Ala	Ala 8185		Xaa	Val	Asp	Xaa 8190	Xaa	Суз	Xaa
Xaa	Xaa 8195	Xaa	Asp	Pro	Xaa	Xaa 8200		Gly	Leu	Asp	Arg 8205	Glu	Xaa	Leu
Tyr	Trp 8210	Glu	Leu	Ser	Xaa	Leu 8215	Thr	Xaa	Xaa	Ile	Xaa 8220	Glu	Leu	Gly
Pro	Tyr 8225	Xaa	Leu	Asp	Arg	Xaa 8230	Ser	Leu	Tyr	Val	Asn 8235	Gly	Phe	Thr
His	Trp 8240	Ile	Pro	Val	Pro	Thr 8245	Ser	Ser	Thr	Pro	Gly 8250	Thr	Ser	Thr
Val	Asp 8255	Leu	Gly	Ser	Gly	Thr 8260	Pro	Ser	Ser	Leu	Pro 8265	Ser	Pro	Thr
Thr	Ala 8270	Gly	Pro	Leu	Leu	Val 8275	Pro	Phe	Thr	Leu	Asn 8280	Phe	Thr	Ile
	Asn 8285			-	-	Glu 8290	-		-		8295			
	Phe 8300					8305					8310			
	Phe 8315					8320					8325			
	Thr 8330			_		8335	_	_	_		8340		_	
	Ala 8345		Cys	Ile	His	His 8350	Leu	Asp	Pro	Lys	Ser 8355	Pro	Gly	Leu
Asp	Arg 8360	G1u	Xaa	Leu	Tyr	Trp 8365	Glu	Leu	Ser	Xaa	Leu 8370	Thr	Xaa	Xaa

Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr

	8375					8380					8385			
Val	Asn 8390	Gly	Phe	Xaa	Xaa	Xaa 8395	Xaa	Xaa	Xaa	Xaa	Xaa 8400	Thr	Ser	Thr
Pro	Gly 8405	Thr	Ser	Xaa	Val	Xaa 8410	Leu	Xaa	Thr	Ser	Gly 8415	Thr	Pro	Xaa
Xaa	Xaa 8420	Pro	Xaa	Xaa	Thr	Xaa 8425	Xaa	Xaa	Pro	Leu	Leu 8430	Xaa	Pro	Phe
Thr	Leu 8435	Asn	Phe	Thr	Ile	Thr 8440	Asn	Leu	Xaa	Tyr	Glu 8445	Glu	Xaa	Met
Xaa	Xaa 8450	Pro	Gly	Ser	Arg	Lys 8455	Phe	Asn	Thr	Thr	Glu 8460	Arg	Val	Leu
Gln	Gly 8465	Leu	Leu	Xaa	Pro	Xaa 8470	Phe	Lys	Xaa	Thr	Ser 8475	Val	Gly	Xaa
Leu	Tyr 8480	Ser	Gly	Cys	Arg	Leu 8485	Thr	Leu	Leu	Arg	Xaa 8490	Glu	Lys	Xaa
Xaa	Ala 8495	Ala	Thr	Xaa	Val	Asp 8500	Xaa	Xaa	Cys	Xaa	Xaa 8505	Xaa	Xaa	Asp
Pro	Xaa 8510	Xaa	Pro	Gly	Leu	Asp 8515	Arg	G1u	Xaa	Leu	Tyr 8520	Trp	Glu	Leu
Ser	Xaa 8525	Leu	Thr	Xaa	Xaa	Ile 8530	Xaa	Glu	Leu	Gly	Pro 8535	Tyr	Xaa	Leu
Asp	Arg 8540	Xaa	Ser	Leu	Tyr	Val 8545	Asn	Gly	Phe	Thr	His 8550	Gln	Thr	Phe
Ala	Pro 8555	Asn	Thr	Ser	Thr	Pro 8560	Gly	Thr	Ser	Thr	Val 8565	Asp	Leu	Gly
Thr	Ser 8570	Gly	Thr	Pro	Ser	Ser 8575	Leu	Pro	Ser	Pro	Thr 8580	Ser	Ala	Gly
Pro	Leu 8585	Leu	Val	Pro	Phe	Thr 8590	Leu	Asn	Phe	Thr	Ile 8595	Thr	Asn	Leu
Gln	Tyr 8600	Glu	Glu	Asp	Met	His 8605	His	Pro	Gly	Ser	Arg 8610	Lys	Phe	Asn
Thr	Thr 8615	Glu	Arg	Val	Leu	Gln 8620	Gly	Leu	Leu	Gly	Pro 8625	Met	Phe	Lys
Asn	Thr 8630	Ser	Val	Gly	Leu	Leu 8635	Tyr	Ser	Gly	Cys	Arg 8640	Leu	Thr	Leu
Leu	Arg 8645	Pro	Glu	Lys	Asn	Gly 8650	Ala	Ala	Thr	Arg	Val 8655	Asp	Ala	Val
Cys	Thr 8660	His	Arg	Pro	Asp	Pro 8665	Lys	Ser	Pro	Gly	Leu 8670	Asp	Arg	Glu

Xaa	Leu 8675	Tyr	Trp	Glu	Leu	Ser 8680	Xaa	Leu	Thr	Xaa	Xaa 8685	Ile	Xaa	Glu
Leu	Gly 8690	Pro	Tyr	Xaa	Leu	Asp 8695	Arg	Xaa	Ser	Leu	Tyr 8700		Asn	Gly
Phe	Xaa 8705	Xaa	Xaa	Xaa	Xaa	Xaa 8710	Xaa	Xaa	Thr	Ser	Thr 8715	Pro	Gly	Thr
Ser	Xaa 8720	Val	Xaa	Leu	Xaa	Thr 8725	Ser	Gly	Thr	Pro	Xaa 8730	Xaa	Xaa	Pro
Xaa	Xaa 8735	Thr	Xaa	Xaa	Xaa	Pro 8740	Leu	Leu	Xaa	Pro	Phe 8745	Thr	Leu	Asn
Phe	Thr 8750	Ile	Thr	Asn	Leu	Xaa 8755	Tyr	Glu	Glu	Xaa	Met 8760	Xaa	Xaa	Pro
Gly	Ser 8765	Arg	Lys	Phe	Asn	Thr 8770	Thr	Glu	Arg	Val	Leu 8775	Gln	Gly	Leu
Leu	Lys 8780	Pro	Leu	Phe	Lys	Ser 8785	Thr	Ser	Val	Gly	Pro 8790	Leu	Tyr	Ser
Gly	Cys 8795	Arg	Leu	Thr	Leu	Leu 8800	Arg	Pro	Glu	Lys	Asp 8805		Val	Ala
Thr	Arg 8810	Val	Asp	Ala	Ile	Cys 8815	Thr	His	Arg	Pro	Asp 8820	Pro	Lys	Ile
Pro	Gly 8825	Leu	Asp	Arg	Gln	Gln 8830	Leu	Tyr	Trp	Glu	Leu 8835	Ser	Gln	Leu
Thr	His 8840	Ser	Ile	Thr	Glu	Leu 8845	Gly	Pro	Tyr	Thr	Leu 8850	Asp	Arg	Asp
Ser	Leu 8855	Tyr	Val	Asn	Gly	Phe 8860	Thr	Gln	Arg	Ser	Ser 8865	Val	Pro	Thr
Thr	Ser 8870	Thr	Pro	Gly	Thr	Phe 8875	Thr	Val	Gln	Pro	Glu 8880	Thr	Ser	Glu
Thr	Pro 8885	Ser	Ser	Leu	Pro	Gly 8890	Pro	Thr	Ala	Thr	Gly 8895	Pro	Val	Leu
Leu	Pro 8900	Phe	Thr	Leu	Asn	Phe 8905	Thr	Ile	Thr	Asn	Leu 8910	Gln	Tyr	Glu
Glu	Asp 8915	Met	His	Arg	Pro	Gly 8920	Ser	Arg	Lys	Phe	Asn 8925	Thr	Thr	Glu
Arg	Val 8930	Leu	Gln	Gly	Leu	Leu 8935	Met	Pro	Leu	Phe	Lys 8940	Asn	Thr	Ser
Val	Ser 8945	Ser	Leu	Tyr	Ser	Gly 8950	Cys	Arg	Leu	Thr	Leu 8955	Leu	Arg	Pro
Glu	Lys 8960	Asp	Gly	Ala	Ala	Thr 8965	Arg	Val	Asp	Ala	Val 8970	Cys	Thr	His

Arg	Pro 8975	Asp	Pro	Lys	Ser	Pro 8980	Gly	Leu	Asp	Arg	Glu 8985	Arg	Leu	Tyr
Trp	Lys 8990	Leu	Ser	Gln	Leu	Thr 8995	His	Gly	Ile	Thr	Glu 9000		Gly	Pro
Tyr	Thr 9005	Leu	Asp	Arg	His	Ser 9010	Leu	Tyr	Val	Asn	Gly 9015	Phe	Thr	His
Gln	Ser 9020	Ser	Met	Thr	Thr	Thr 9025	Arg	Thr	Pro	Asp	Thr 9030	Ser	Thr	Met
His	Leu 9035	Ala	Thr	Ser	Arg	Thr 9040	Pro	Ala	Ser	Leu	Ser 9045		Pro	Thr
Thr	Ala 9050	Ser	Pro	Leu	Leu	Val 9055	Leu	Phe	Thr	Ile	Asn 9060		Thr	Ile
Thr	Asn 9065	Leu	Arg	Tyr	Glu	Glu 9070	Asn	Met	His	His	Pro 9075		Ser	Arg
Lys	Phe 9080	Asn	Thr	Thr	Glu	Arg 9085	Val	Leu	Gln	Gly	Leu 9090	Leu	Arg	Pro
Val	Phe 9095	Lys	Asn	Thr	Ser	Val 9100	Gly	Pro	Leu	Tyr	Ser 9105	Gly	Cys	Arg
Leu	Thr 9110	Leu	Leu	Arg	Pro	Lys 9115	Lys	Asp	Gly	Ala	Ala 9120	Thr	Lys	Val
Asp	Ala 9125	Ile	Cys	Thr	Tyr	Arg 9130	Pro	Asp	Pro	Lys	Ser 9135	Pro	Gly	Leu
Asp	Arg 9140	Glu	Gln	Leu	Tyr	Trp 9145	Glu	Leu	Ser	Gln	Leu 9150	Thr	His	Ser
	9155					Tyr 9160					9165		Leu	Tyr
Asn	Val 9170	Gly	Phe	Thr	Gln	Arg 9175	Ser	Ser	Val	Pro	Thr 9180	Thr	Ser	Val
Pro	Gly 9185	Thr	Pro	Thr	Val	Asp 9190	Leu	Gly	Thr	Ser	Gly 9195	Thr	Pro	Val
Ser	Lys 9200	Pro	Gly	Pro	Ser	Ala 9205	Ala	Ser	Pro	Leu	Leu 9210	Val	Leu	Phe
Thr	Leu 9215	Asn	Gly	Thr	Ile	Thr 9220	Asn	Leu	Arg	Tyr	Glu 9225	Glu	Asn	Met
Gln	His 9230	Pro	Gly	Ser	Arg	Lys 9235	Phe	Asn	Thr	Thr	Glu 9240	Arg	Val	Leu
Gln	Gly 9245	Leu	Leu	Arg	Ser	Leu 9250	Phe	Lys	Ser	Thr	Ser 9255	Val	Gly	Pro

Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp

	9260					9265					9270			
Gly	Thr 9275	Ala	Thr	Gly	Val	Asp 9280	Ala	Ile	Cys	Thr	His 9285	His	Pro	Asp
Pro	Lys 9290	Ser	Pro	Arg	Leu	Asp 9295	Arg	Glu	Gln	Leu	Tyr 9300	Trp	Glu	Leu
Ser	Gln 9305	Leu	Thr	His	Asn	Ile 9310	Thr	Glu	Leu	Gly	His 9315	Tyr	Ala	Leu
Asp	Asn 9320	Asp	Ser	Leu	Phe	Val 9325	Asn	Gly	Phe	Thr	His 9330	Arg	Ser	Ser
Val	Ser 9335	Thr	Thr	Ser	Thr	Pro 9340	Gly	Thr	Pro	Thr	Val 9345	Tyr	Leu	Gly
Ala	Ser 9350	Lys	Thr	Pro	Ala	Ser 9355	Ile	Phe	Gly	Pro	Ser 9360	Ala	Ala	Ser
His	Leu 9365	Leu	Ile	Leu	Phe	Thr 9370	Leu	Asn	Phe	Thr	Ile 9375	Thr	Asn	Leu
Arg	Tyr 9380	Glu	Glu	Asn	Met	Trp 9385	Pro	Gly	Ser	Arg	Lys 9390	Phe	Asn	Thr
Thr	Glu 9395	Arg	Val	Leu	Gln	Gly 9400	Leu	Leu	Arg	Pro	Leu 9405	Phe	Lys	Asn
Thr	Ser 9410	Val	Gly	Pro	Leu	Tyr 9415	Ser	Gly	Ser	Arg	Leu 9420	Thr	Leu	Leu
Arg	Pro 9425	Glu	Lys	Asp	Gly	Glu 9430	Ala	Thr	Gly	Val	Asp 9435	Ala	Ile	Cys
Thr	His 9440	Arg	Pro	Asp	Pro	Thr 9445	Gly	Pro	Gly	Leu	Asp 9450	Arg	Glu	Gln
Leu	Tyr 9455	Leu	Glu	Leu	Ser	Gln 9460	Leu	Thr	His	Ser	Ile 9465	Thr	Glu	Leu
Gly	Pro 9470	Tyr	Thr	Leu	Asp	Arg 9475	Asp	Ser	Leu	Tyr	Val 9480	Asn	Gly	Phe
Thr	His 9485	Arg	Ser	Ser	Val	Pro 9490	Thr	Thr	Ser	Thr	Gly 9495	Val	Val	Ser
Glu	Glu 9500	Pro	Phe	Thr	Leu	Asn 9505	Phe	Thr	Ile	Asn	Asn 9510	Leu	Arg	Tyr
Met	Ala 9515	Asp	Met	Gly	Gln	Pro 9520	Gly	Ser	Leu	Lys	Phe 9525	Asn	Ile	Thr
Asp	Asn 9530	Val	Met	Lys	His	Leu 9535	Leu	Ser	Pro	Leu	Phe 9540	Gln	Arg	Ser
Ser	Leu 9545	Gly	Ala	Arg	Tyr	Thr 9550	Gly	Cys	Arg	Val	Ile 9555	Ala	Leu	Arg

Ser Val Lys Asn Gly Ala Glu Thr Arg Val Asp Leu Leu Cys Thr 9565 Tyr Leu Gln Pro Leu Ser Gly Pro Gly Leu Pro Ile Lys Gln Val 9580 Phe His Glu Leu Ser Gln Gln Thr His Gly Ile Thr Arg Leu Gly 9595 Pro Tyr Ser Leu Asp Lys Asp Ser Leu Tyr Leu Asn Gly Tyr Asn 9605 9610 9615 Glu Pro Gly Leu Asp Glu Pro Pro Thr Thr Pro Lys Pro Ala Thr 9620 9625 Thr Phe Leu Pro Pro Leu Ser Glu Ala Thr Thr Ala Met Gly Tyr 9635 9640 His Leu Lys Thr Leu Thr Leu Asn Phe Thr Ile Ser Asn Leu Gln 9655 Tyr Ser Pro Asp Met Gly Lys Gly Ser Ala Thr Phe Asn Ser Thr 9665 Glu Gly Val Leu Gln His Leu Leu Arg Pro Leu Phe Gln Lys Ser 9685 Ser Met Gly Pro Phe Tyr Leu Gly Cys Gln Leu Ile Ser Leu Arg 9695 9700 Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Thr Thr Cys Thr 9715 Tyr His Pro Asp Pro Val Gly Pro Gly Leu Asp Ile Gln Gln Leu 9725 Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Val Thr Gln Leu Gly Phe Tyr Val Leu Asp Arg Asp Ser Leu Phe Ile Asn Gly Tyr Ala 9760 Pro Gln Asn Leu Ser Ile Arg Gly Glu Tyr Gln Ile Asn Phe His 9775 Ile Val Asn Trp Asn Leu Ser Asn Pro Asp Pro Thr Ser Ser Glu 9785 9790

Tyr

<210> 147 <211> 1422 <212> DNA

<213> Homo sapiens

<400> 147 gccatggggt accacctgaa gaccctcaca ctcaacttca ccatctccaa tctccagtat 60 tcaccagata tgggcaaggg ctcagctaca ttcaactcca ccgagggggt ccttcagcac 120 ctgctcagac ccttgttcca gaagagcagc atgggcccct tctacttggg ttgccaactg 180 atotocotca ggootgagaa ggatggggca gccactggtg tggacaccac ctgcacctac 240 caccetgace etgtgggece egggetggac atacageage tttactggga getgagteag 300 etgacceatg gtgtcaccea actgggcttc tatgtcctgg acagggatag cctcttcatc 360 aatggctatg caccccagaa tttatcaatc cggggcgagt accagataaa tttccacatt 420 gtcaactgga acctcagtaa tccagacccc acatcctcag agtacatcac cctgctgagg 480 540 gacatccagg acaaggtcac cacactctac aaaggcagtc aactacatga cacattccgc 600 ttctgcctgg tcaccaactt gacgatggac tccgtgttgg tcactgtcaa ggcattgttc tectecaatt tggaccecag cetggtggag caagtettte tagataagae eetgaatgee 660 tcattccatt ggctgggctc cacctaccag ttggtggaca tccatgtgac agaaatggag 720 tcatcagttt atcaaccaac aagcagctcc agcacccagc acttetacct gaatttcacc 780 atcaccaacc taccatattc ccaggacaaa gcccagccag gcaccaccaa ttaccagagg 840 aacaaaagga atattgagga tgcgctcaac caactcttcc gaaacagcag catcaagagt 900 tatttttctg actgtcaagt ttcaacattc aggtctgtcc ccaacaggca ccacacggg 960 gtggactccc tgtgtaactt ctcgccactg gctcggagag tagacagagt tgccatctat gaggaatttc tgcggatgac ccggaatggt acccagetge agaacttcae cctggacagg 1080 agcagtgtcc ttgtggatgg gtattctccc aacagaaatg agcccttaac tgggaattct 1140 gaccttccct tetgggetgt catectcate ggettggeag gacteetggg acteateaca 1200 tgcctgatet gcggtgtcct ggtgaccacc cgccggcgga agaaggaagg agaatacaac 1260 gtocagcaac agtgcccagg ctactaccag tcacacctag acctggagga tctgcaatga 1320 ctggaacttg ccggtgcctg gggtgccttt cccccagcca gggtccaaag aagcttggct 1380 ggggcagaaa taaaccatat tggtcggaaa aaaaaaaaa aa 1422

<sup>&</sup>lt;211> 439

<sup>&</sup>lt;212> PRT

## <213> Homo sapiens

<400> 148

Ala Met Gly Tyr His Leu Lys Thr Leu Thr Leu Asn Phe Thr Ile Ser 1 5 10 15

Asn Leu Gln Tyr Ser Pro Asp Met Gly Lys Gly Ser Ala Thr Phe Asn 20 25 30

Ser Thr Glu Gly Val Leu Gln His Leu Leu Arg Pro Leu Phe Gln Lys 35 40 45

Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Thr Thr Cys Thr Tyr 65 70 75 80

His Pro Asp Pro Val Gly Pro Gly Leu Asp Ile Gln Gln Leu Tyr Trp \$85\$ 90 95

Glu Leu Ser Gln Leu Thr His Gly Val Thr Gln Leu Gly Phe Tyr Val 100  $$105\$ 

Leu Asp Arg Asp Ser Leu Phe Ile Asn Gly Tyr Ala Pro Gln Asn Leu 115 120 125

Ser Ile Arg Gly Glu Tyr Gln Ile Asn Phe His Ile Val Asn Trp Asn 130 135 140

Leu Ser Asn Pro Asp Pro Thr Ser Ser Glu Tyr Ile Thr Leu Leu Arg 145 150 155 160

Asp Ile Gln Asp Lys Val Thr Thr Leu Tyr Lys Gly Ser Gln Leu His 165 170 175

Asp Thr Phe Arg Phe Cys Leu Val Thr Asn Leu Thr Met Asp Ser Val

Leu Val Thr Val Lys Ala Leu Phe Ser Ser Asn Leu Asp Pro Ser Leu 195 200 205

Val Glu Gln Val Phe Leu Asp Lys Thr Leu Asn Ala Ser Phe His Trp 210 215 220

Leu Gly Ser Thr Tyr Gln Leu Val Asp Ile His Val Thr Glu Met Glu 225  $\phantom{\bigg|}230\phantom{\bigg|}225\phantom{\bigg|}235\phantom{\bigg|}$ 

Ser Ser Val Tyr Gln Pro Thr Ser Ser Ser Ser Thr Gln His Phe Tyr  $245 \hspace{1.5cm} 250 \hspace{1.5cm} 255$ 

Leu Asn Phe Thr Ile Thr Asn Leu Pro Tyr Ser Gln Asp Lys Ala Gln 260 265 270

Pro Gly Thr Thr Asn Tyr Gln Arg Asn Lys Arg Asn Ile Glu Asp Ala 275 280 285 Leu Asn Gln Leu Phe Arg Asn Ser Ser Ile Lys Ser Tyr Phe Ser Asp  $290 \\ \hspace*{1.5cm} 295 \\ \hspace*{1.5cm} 300 \\ \hspace*{1.5cm}$ 

Val Asp Ser Leu Cys Asn Phe Ser Pro Leu Ala Arg Arg Val Asp Arg 325 330 335

Val Ala Ile Tyr Glu Glu Phe Leu Arg Met Thr Arg Asn Gly Thr Gln  $340 \hspace{1.5cm} 345 \hspace{1.5cm} 350 \hspace{1.5cm}$ 

Leu Gln Asn Phe Thr Leu Asp Arg Ser Ser Val Leu Val Asp Gly Tyr \$355\$

Ser Pro Asn Arg Asn Glu Pro Leu Thr Gly Asn Ser Asp Leu Pro Phe 370 380

Trp Ala Val Ile Leu Ile Gly Leu Ala Gly Leu Leu Gly Leu Ile Thr 385 \$390\$

Cys Leu Ile Cys Gly Val Leu Val Thr Thr Arg Arg Arg Lys Glu  $405 \hspace{1cm} 410 \hspace{1cm} 415$ 

Gly Glu Tyr Asn Val Gln Gln Gln Cys Pro Gly Tyr Tyr Gln Ser His  $420 \hspace{1cm} 425 \hspace{1cm} 430$ 

Leu Asp Leu Glu Asp Leu Gln 435

<210> 149

<211> 1799

<212> PRT

<213> Homo sapiens

<400> 149

Ala His Arg Gly Thr Ile Arg Pro Val Lys Gly Pro Gln Thr Ser Thr  $20 \hspace{1.5cm} 25 \hspace{1.5cm} 30 \hspace{1.5cm}$ 

Ser Pro Ala Ser Pro Lys Gly Leu His Thr Gly Gly Thr Lys Arg Met 35 40 45

Glu Thr Thr Thr Thr Ala Leu Lys Thr Thr Thr Thr Ala Leu Lys Thr 50 55 60

Thr Ser Arg Ala Thr Leu Thr Thr Ser Val Tyr Thr Pro Thr Leu Gly 65 70 75 80

Thr Leu Thr Pro Leu Asn Ala Ser Arg Gln Met Ala Ser Thr Ile Leu

				85					90					95	
Thr	Glu	Met	Met 100	Ile	Thr	Thr	Pro	Tyr 105	Val	Phe	Pro	Asp	Val 110	Pro	Glu
Thr	Thr	Ser 115	Ser	Leu	Ala	Thr	Ser 120	Leu	Gly	Ala	Glu	Thr 125	Ser	Thr	Ala
Leu	Pro 130	Arg	Thr	Thr	Pro	Ser 135	Val	Leu	Asn	Arg	Glu 140	Ser	Glu	Thr	Thr
Ala 145	Ser	Leu	Val	Ser	Arg 150	Ser	Gly	Ala	Glu	Arg 155	Ser	Pro	Val	Ile	Gln 160
Thr	Leu	Asp	Val	Ser 165	Ser	Ser	Glu	Pro	Asp 170	Thr	Thr	Ala	Ser	Trp 175	Val
Ile	His	Pro	Ala 180	Glu	Thr	Ile	Pro	Thr 185	Val	Ser	Lys	Thr	Thr 190	Pro	Asn
Phe	Phe	His 195	Ser	Glu	Leu	Asp	Thr 200	Val	Ser	Ser	Thr	Ala 205	Thr	Ser	His
Gly	Ala 210	Asp	Val	Ser	Ser	Ala 215	I1e	Pro	Thr	Asn	11e 220	Ser	Pro	Ser	Glu
Leu 225	Asp	Ala	Leu	Thr	Pro 230	Leu	Val	Thr	Ile	Ser 235	Gly	Thr	Asp	Thr	Ser 240
Thr	Thr	Phe	Pro	Thr 245	Leu	Thr	Lys	Ser	Pro 250	His	Glu	Thr	Glu	Thr 255	Arg
Thr	Thr	Trp	Leu 260	Thr	His	Pro	Ala	Glu 265	Thr	Ser	Ser	Thr	Ile 270	Pro	Arg
Thr	Ile	Pro 275	Asn	Phe	Ser	His	His 280	Glu	Ser	Asp	Ala	Thr 285	Pro	Ser	Ile
Ala	Thr 290	Ser	Pro	Gly	Ala	Glu 295	Thr	Ser	Ser	Ala	Ile 300	Pro	Ile	Met	Thr
Val 305	Ser	Pro	Gly	Ala	Glu 310	Asp	Leu	Val	Thr	Ser 315	Gln	Val	Thr	Ser	Ser 320
Gly	Thr	Asp	Arg	Asn 325	Met	Thr	Ile	Pro	Thr 330	Leu	Thr	Leu	Ser	Pro 335	Gly
Glu	Pro	Lys	Thr 340	Ile	Ala	Ser	Leu	Val 345	Thr	His	Pro	Glu	Ala 350	Gln	Thr
Ser	Ser	Ala 355	Ile	Pro	Thr	Ser	Thr 360	Ile	Ser	Pro	Ala	Val 365	Ser	Arg	Leu
Val	Thr 370	Ser	Met	Val	Thr	Ser 375	Leu	Ala	Ala	Lys	Thr 380	Ser	Thr	Thr	Asn
Arg 385	Ala	Leu	Thr	Asn	Ser 390	Pro	Gly	Glu	Pro	Ala 395	Thr	Thr	Val	Ser	Leu 400

TOUCKY JO GODDY THE

Val Thr His Pro Ala Gln Thr Ser Pro Thr Val Pro Trp Thr Thr Ser 405 410 415

Ile Phe Phe His Ser Lys Ser Asp Thr Thr Pro Ser Met Thr Thr Ser  $420 \hspace{1.5cm} 425 \hspace{1.5cm} 430$ 

His Gly Ala Glu Ser Ser Ser Ala Val Pro Thr Pro Thr Val Ser Thr 435 440 445

Glu Val Pro Gly Val Val Thr Pro Leu Val Thr Ser Ser Arg Ala Val 450 455 460

Ile Ser Thr Thr Ile Pro Ile Leu Thr Leu Ser Pro Gly Glu Pro Glu 465 470 475 480

Thr Thr Pro Ser Met Ala Thr Ser His Gly Glu Glu Ala Ser Ser Ala  $485 \hspace{1cm} 490 \hspace{1cm} 490 \hspace{1cm} 495$ 

Ile Pro Thr Pro Thr Val Ser Pro Gly Val Pro Gly Val Val Thr Ser 500 505 510

Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr Thr Ile Pro Ile Leu 515 520 525

Thr Phe Ser Leu Gly Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser 530  $\phantom{0000}535$   $\phantom{0000}540$ 

His Gly Thr Glu Ala Gly Ser Ala Val Pro Thr Val Leu Pro Glu Val 545 550 560

Pro Gly Met Val Thr Ser Leu Val Ala Ser Ser Arg Ala Val Thr Ser 565 570 575

Thr Thr Leu Pro Thr Leu Thr Leu Ser Pro Gly Glu Pro Glu Thr Thr 580 585 590

Pro Ser Met Ala Thr Ser His Gly Ala Glu Ala Ser Ser Thr Val Pro  $595 \hspace{1.5cm} 600 \hspace{1.5cm} 605 \hspace{1.5cm}$ 

Thr Val Ser Pro Glu Val Pro Gly Val Val Thr Ser Leu Val Thr Ser 610 615 620

Ser Ser Gly Val Asn Ser Thr Ser Ile Pro Thr Leu Ile Leu Ser Pro 625 630 630 640

Gly Glu Leu Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Ala Glu 645 650 655

Ala Ser Ser Ala Val Pro Thr Pro Thr Val Ser Pro Gly Val Ser Gly 660 665 670

Val Val Thr Pro Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr Thr 675 680 685

Ile Pro Ile Leu Thr Leu Ser Ser Ser Glu Pro Glu Thr Thr Pro Ser 690 700

Met Ala Thr Ser His Gly Val Glu Ala Ser Ser Ala Val Leu Thr Val 705 710 720 Ser Pro Glu Val Pro Gly Met Val Thr Ser Leu Val Thr Ser Ser Arg
725 730 735

Ala Val Thr Ser Thr Thr Ile Pro Thr Leu Thr Ile Ser Ser Asp Glu 740  $\phantom{000}745$   $\phantom{000}750$ 

Pro Glu Thr Thr Thr Ser Leu Val Thr His Ser Glu Ala Lys Met Ile 755 760 765

Ser Ala Ile Pro Thr Leu Ala Val Ser Pro Thr Val Gln Gly Leu Val  $770 \hspace{1cm} 775 \hspace{1cm} 780$ 

Thr Ser Leu Val Thr Ser Ser Gly Ser Glu Thr Ser Ala Phe Ser Asn 785 790 795 800

Leu Thr Val Ala Ser Ser Gln Pro Glu Thr Ile Asp Ser Trp Val Ala 805 810 815

His Pro Gly Thr Glu Ala Ser Ser Val Val Pro Thr Leu Thr Val Ser 825  $\phantom{\bigg|}$  830

Thr Gly Glu Pro Phe Thr Asn Ile Ser Leu Val Thr His Pro Ala Glu 835 840 845

Ser Ser Ser Thr Leu Pro Arg Thr Thr Ser Arg Phe Ser His Ser Glu 850 855 860

Leu Asp Thr Met Pro Ser Thr Val Thr Ser Pro Glu Ala Glu Ser Ser 865 870 875 880

Ser Ala Ile Ser Thr Thr Ile Ser Pro Gly Ile Pro Gly Val Leu Thr 885 890 895

Ser Leu Val Thr Ser Ser Gly Arg Asp Ile Ser Ala Thr Phe Pro Thr  $900 \\ 905 \\ 910$ 

Val Pro Glu Ser Pro His Glu Ser Glu Ala Thr Ala Ser Trp Val Thr 915 920 925

His Pro Ala Val Thr Ser Thr Thr Val Pro Arg Thr Thr Pro Asn Tyr 930 935 940

Ser His Ser Glu Pro Asp Thr Thr Pro Ser Ile Ala Thr Ser Pro Gly 945 950 955 960

Ala Glu Ala Thr Ser Asp Phe Pro Thr Ile Thr Val Ser Pro Asp Val 965 970 975

Pro Asp Met Val Thr Ser Gln Val Thr Ser Ser Gly Thr Asp Thr Ser 980 985 990

Ile Thr Ile Pro Thr Leu Thr Leu Ser Ser Gly Glu Pro Glu Thr Thr 995  $$1000\ \ \ \ \ \ ]$ 

Thr Ser Phe Ile Thr Tyr Ser Glu Thr His Thr Ser Ser Ala Ile 1010 1015 1020

Pro Thr Leu Pro Val Ser Pro Gly Ala Ser Lys Met Leu Thr Ser

	1025					1030					1035			
Leu	Val 1040	Ile	Ser	Ser	Gly	Thr 1045	Asp	Ser	Thr	Thr	Thr 1050	Phe	Pro	Thr
Leu	Thr 1055	Glu	Thr	Pro	Tyr	G1u 1060	Pro	Glu	Thr	Thr	Ala 1065	Ile	Gln	Leu
Ile	His 1070	Pro	Ala	Glu	Thr	Asn 1075		Met	Va1	Pro	Arg 1080	Thr	Thr	Pro
Lys	Phe 1085	Ser	His	Ser	Lys	Ser 1090	Asp	Thr	Thr	Leu	Pro 1095	Val	Ala	Ile
Thr	Ser 1100	Pro	Gly	Pro	Glu	Ala 1105	Ser	Ser	Ala	Val	Ser 1110	Thr	Thr	Thr
I1e	Ser 1115	Pro	Asp	Met	Ser	Asp 1120	Leu	Val	Thr	Ser	Leu 1125	Val	Pro	Ser
Ser	Gly 1130	Thr	Asp	Thr	Ser	Thr 1135	Thr	Phe	Pro	Thr	Leu 1140	Ser	Glu	Thr
Pro	Tyr 1145	Glu	Pro	Glu	Thr	Thr 1150	Ala	Thr	Trp	Leu	Thr 1155	His	Pro	Ala
Glu	Thr 1160	Ser	Thr	Thr	Val	Ser 1165	Gly	Thr	Ile	Pro	Asn 1170	Phe	Ser	His
Arg	Gly 1175	Ser	Asp	Thr	Ala	Pro 1180	Ser	Met	Val	Thr	Ser 1185	Pro	Gly	Val
Asp	Thr 1190	Arg	Ser	Gly	Val	Pro 1195	Thr	Thr	Thr	Ile	Pro 1200	Pro	Ser	Ile
Pro	Gly 1205	Val	Val	Thr	Ser	Gln 1210		Thr	Ser	Ser	Ala 1215	Thr	Asp	Thr
Ser	Thr 1220	Ala	Ile	Pro	Thr	Leu 1225		Pro	Ser	Pro	Gly 1230	Glu	Pro	Glu
Thr	Thr 1235	Ala	Ser	Ser	Ala	Thr 1240	His	Pro	Gly	Thr	Gln 1245	Thr	Gly	Phe
Thr	Val 1250	Pro	Ile	Arg	Thr	Val 1255	Pro	Ser	Ser	Glu	Pro 1260	Asp	Thr	Met
Ala	Ser 1265	Trp	Val	Thr	His	Pro 1270	Pro	Gln	Thr	Ser	Thr 1275	Pro	Val	Ser
Arg	Thr 1280	Thr	Ser	Ser	Phe	Ser 1285	His	Ser	Ser	Pro	Asp 1290	Ala	Thr	Pro
Val	Met 1295	Ala	Thr	Ser	Pro	Arg 1300		Glu	Ala	Ser	Ser 1305	Ala	Val	Leu
Thr	Thr 1310	Ile	Ser	Pro	Gly	Ala 1315	Pro	Glu	Met	Val	Thr 1320	Ser	Gln	Ile

Thr	Ser 1325	Ser	Gly	Ala	Ala	Thr 1330	Ser	Thr	Thr	Val	Pro 1335	Thr	Leu	Thr
His	Ser 1340	Pro	Gly	Met	Pro	Glu 1345	Thr	Thr	Ala	Leu	Leu 1350	Ser	Thr	His
Pro	Arg 1355	Thr	Glu	Thr	Ser	Lys 1360	Thr	Phe	Pro	Ala	Ser 1365	Thr	Val	Phe
Pro	Gln 1370	Val	Ser	Glu	Thr	Thr 1375	Ala	Ser	Leu	Thr	Ile 1380	Arg	Pro	Gly
Ala	Glu 1385	Thr	Ser	Thr	Ala	Leu 1390	Pro	Thr	Gln	Thr	Thr 1395	Ser	Ser	Leu
Phe	Thr 1400	Leu	Leu	Val	Thr	Gly 1405	Thr	Ser	Arg	Val	Asp 1410	Leu	Ser	Pro
Thr	Ala 1415	Ser	Pro	Gly	Val	Ser 1420	Ala	Lys	Thr	Ala	Pro 1425	Leu	Ser	Thr
His	Pro 1430	Gly	Thr	Glu	Thr	Ser 1435	Thr	Met	Ile	Pro	Thr 1440	Ser	Thr	Leu
Ser	Leu 1445	Gly	Leu	Leu	Glu	Thr 1450	Thr	Gly	Leu	Leu	Ala 1455	Thr	Ser	Ser
Ser	Ala 1460	Glu	Thr	Ser	Thr	Ser 1465	Thr	Leu	Thr	Leu	Thr 1470	Val	Ser	Pro
Ala	Val 1475	Ser	Gly	Leu	Ser	Ser 1480	Ala	Ser	Ile	Thr	Thr 1485	Asp	Lys	Pro
Gln	Thr 1490	Val	Thr	Ser	Trp	Asn 1495	Thr	Glu	Thr	Ser	Pro 1500	Ser	Val	Thr
Ser	Val 1505	Gly	Pro	Pro	Glu	Phe 1510	Ser	Arg	Thr	Val	Thr 1515	Gly	Thr	Thr
Met	Thr 1520	Leu	Ile	Pro	Ser	Glu 1525	Met	Pro	Thr	Pro	Pro 1530	Lys	Thr	Ser
His	Gly 1535	Glu	Gly	Val	Ser	Pro 1540	Thr	Thr	Ile	Leu	Arg 1545	Thr	Thr	Met
Val	Glu 1550	Ala	Thr	Asn	Leu	Ala 1555	Thr	Thr	Gly	Ser	Ser 1560	Pro	Thr	Val
Ala	Lys 1565	Thr	Thr	Thr	Thr	Phe 1570	Asn	Thr	Leu	Ala	Gly 1575	Ser	Leu	Phe
Thr	Pro 1580	Leu	Thr	Thr	Pro	Gly 1585	Met	Ser	Thr	Leu	Ala 1590	Ser	Glu	Ser
Val	Thr 1595	Ser	Arg	Thr	Ser	Tyr 1600	Asn	His	Arg	Ser	Trp 1605	Ile	Ser	Thr
Thr	Ser 1610	Ser	Tyr	Asn	Arg	Arg 1615	Tyr	Trp	Thr	Pro	Ala 1620	Thr	Ser	Thr

Pro Val Thr Ser Thr Phe Ser Pro Gly Ile Ser Thr Ser Ser Ile  $1625 \\ \hspace*{1.5cm} 1630 \\ \hspace*{1.5cm} 1635 \\ \hspace*{1.5cm}$ 

Pro Ser Ser Thr Ala Ala Thr Val Pro Phe Met Val Pro Phe Thr 1640 \$1645 1650

Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg 1655  $\phantom{0}1660$   $\phantom{0}1665$ 

His Pro Gly Ser Arg Lys Phe Asn Ala Thr Glu Arg Glu Leu Gln 1670 1680

Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu 1685 1690 1695

Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu Lys Asp Ser 1700 1705 1710

Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser 1730 1735 1740

Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp 1745 1750

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met

Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly Thr 1775  $\phantom{0}1780$   $\phantom{0}1785$ 

Ser Gly Thr Pro Ser Ser Ser Pro Ser Pro Thr 1790 1795

<210> 150

<211> 156

<212> PRT

<213> Homo sapiens

<400> 150

Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr 1  $\phantom{-}$  10  $\phantom{-}$  15

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys 35 40 45

Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu

Arg Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr 65 This Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr 85 Trp Glu Leu Ser Gln Leu Thr Asn Sex Ile Thr Glu Leu Gly Pro Tyr

			100					105					110				
Thr	Leu	Asp 115	Arg	Asp	Ser	Leu	Tyr 120	Val	Asn	Gly	Phe	Asn 125	Pro	Arg	Ser		
Ser	Val	Pro	Thr	Thr	Ser	Thr 135	Pro	Gly	Thr	Ser	Thr 140	Val	His	Leu	Ala		
Thr 145	Ser	Gly	Thr	Pro	Ser 150	Ser	Leu	Pro	Lys	Leu 155	Thr						
<210	)>	151															
<21	L>	507															
<212	2>	DNA															
<213	3>	Homo	sap	iens													
<220	)>																
<22	1>	CDS															
<222	2>	(1).	. (50	7)													
<40								aa+		~~~	+	2+4	~~~	222	2.02		48
Met 1	Aro	gga Gly	Ser	His 5	His	His	His	His	His 10	Gly	Ser	Met	Gly	His 15	Thr		40
		ggc Gly															96
		cat His 35														1	. 4 4
		acg Thr														1	92
aac Asn 65	Th	e agt Ser	gtt Val	ggc	cct Pro 70	ctg Leu	tac Tyr	tct Ser	ggc Gly	tgc Cys 75	aga Arg	ctg Leu	acc Thr	ttg Leu	ctc Leu 80	2	40

aga cct gag aag cat gag gca gcc act gga gtg gac acc atc tgt acc Arg Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr 85 $90$ 90 $95$	288
cac cgc gtt gat ccc atc gga cct gga ctg gac aga gag cgg cta tac His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr $100 \hspace{1.5cm} 105 \hspace{1.5cm} 110$	336
tgg gag ctg agc cag ctg acc aac agc atc aca gag ctg gga ccc tac Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr $$115$$ $$120$$ $$125$$	384
acc ctg gac agg gac agt ctc tat gtc aat ggc ttc aac cct cgg agc Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser 130 $$140$$	432
tct gtg cca acc acc agc act cct ggg acc tcc aca gtg cac ctg gca Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala 145 $$150$$	480
acc tot ggg act coa too too otg cot Thr Ser Gly Thr Pro Ser Ser Leu Pro 165	507
4010 150	
<210> 152	
<211> 169	
<212> PRT	
<213> Homo sapiens	
<400> 152	
<400> 152	
Met Arg Gly Ser His His His His His Gly Ser Met Gly His Thr 1 $5$ $10$ $15$	
Met Arg Gly Ser His His His His His Gly Ser Met Gly His Thr	
Met Arg Gly Ser His His His His His Gly Ser Met Gly His Thr 1 $10$ $15$ $15$ Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr	
Met Arg Gly Ser His His His His His His Gly Ser Met Gly His Thr $1$ $1$ $1$ $1$ $1$ $1$ $1$ $1$ $1$ $1$	
Met Arg Gly Ser His His His His His His Gly Ser Met Gly His Thr  Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr 20  Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe 35  Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys	

His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr 100 Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr 115 120 Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser 130 135 Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala 150 155 160 Thr Ser Gly Thr Pro Ser Ser Leu Pro 165 <210> 153 <211> 507 <212> DNA <213> Homo sapiens <400> 153 60 aggeaggag gatggagtee cagaggttge caggtgeact gtggaggtee caggagtget ggtggttggc acaqagctcc gagggttgaa gccattgaca tagagactgt ccctqtccag 120 180 qqtqtaqqqt cccagetetg tgatgetqtt ggteagetgg ctcagetece agtatageeg ctetetatee agteeaqqte eqatqqqate aacqcqqtqq qtacaqatqq tqtecactee 240 300 agtggctgcc tcatgcttct caggtctgag caaggtcagt ctgcagccag agtacagagg 360 qccaacactg qtqttcttqa acaaqqqctt qaqcaqaccc tqcaqaaccc tctccgtggt qttqaacttc ctqqaaccaq qqtqttqcat qttttcctca taatqcaggt tqqtqatqqt 420 aaagttgaaa gtgaatggta tcaggagagg gccaggctct gtgtggccca tggatccgtg 480

507

<210> 154 <211> 9 <212> PRT

atggtgatgg tgatgcgatc ctctcat

```
<213> Homo sapiens
   <400> 154
   Arg Leu Tyr Trp Glu Leu Ser Gln Leu
   <210> 155
   <211> 9
   <212> PRT
  <213> Homo sapiens
  <400> 155
   Thr Leu Asp Arg Asp Ser Leu Tyr Val
  <210> 156
 <211> 9
<212> PRT
  <213> Homo sapiens
  <400> 156
   Val Leu Gln Gly Leu Leu Lys Pro Leu
   <210> 157
   <211> 9
   <212> PRT
   <213> Homo sapiens
   <400> 157
   Gln Leu Thr Asn Ser Ile Thr Glu Leu
                 5
   <210> 158
   <211> 780
```

<212> PRT

<213> Homo sapiens

<400> 158

Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Ala Thr Glu Arg Glu Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg 35 40 45

Asn Ser Ser Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu 50 55 60

Arg Pro Glu Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr 65 70 75 80

His Arg Pro Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr 85 90 95

Trp Glu Leu Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr  $100 \hspace{1cm} 105 \hspace{1cm} 110 \hspace{1cm}$ 

Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser  $115 \\ 120 \\ 125$ 

Ser Met Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly 130 135 140

Thr Ser Gly Thr Pro Ser Ser Ser Pro Ser Pro Thr Ala Ala Gly Pro 145  $\phantom{\bigg|}$  150  $\phantom{\bigg|}$  150  $\phantom{\bigg|}$  155  $\phantom{\bigg|}$  160

Leu Leu Met Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr \$165\$

Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu 180 \$180\$

Ser Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val 195 200 205

Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys 210 215 220

Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp 225 230 235 240

Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser  $245 \hspace{1cm} 250 \hspace{1cm} 255$ 

Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg \$260\$

Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr 275 280 285

Pro Ser Ser Leu Ser Ser Pro Thr Ile Met Ala Gly Pro Leu Leu Val 305 310 315 320

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Gly Glu Asp 325 330 335

Met Gly His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 340 345 350

Gln Gly Leu Leu Gly Pro Ile Phe Lys Asn Thr Ser Val Gly Pro Leu 355 360 365

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Ser Glu Lys Asp Gly Ala  $370 \ \ 375 \ \ 380$ 

Ala Thr Gly Val Asp Ala Ile Cys Ile His His Leu Asp Pro Lys Ser 385 390 395 400

Pro Gly Leu Asn Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr \$405\$

Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu  $420 \hspace{1.5cm} 425 \hspace{1.5cm} 430$ 

Tyr Val Asn Gly Phe Thr His Arg Thr Ser Val Pro Thr Ser Ser Thr 435  $\phantom{0}440$ 

Leu Pro Ser Pro Ala Thr Ala Gly Pro Leu Leu Val Leu Phe Thr Leu 465 470 480

Asn Phe Thr Ile Thr Asn Leu Lys Tyr Glu Glu Asp Met His Arg Pro  $485 \hspace{1cm} 490 \hspace{1cm} 490 \hspace{1cm} 495 \hspace{1cm}$ 

Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Thr Leu Leu 500 505 510

Arg Leu Thr Leu Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val 530 535 540

Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp 545 550 555 560

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys  $\phantom{0}$  575  $\phantom{0}$ 

Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly 580 585 590

Phe Thr His Trp Ile Pro Val Pro Thr Ser Ser Thr Pro Gly Thr Ser 595 600 605

Thr Val Asp Leu Gly Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr 610 615 620

Ala Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 625 630 635 640

Asn Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe 645 650 655

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys 660 665 670

Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu 675 680 685

Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr 690 695 700

His Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr  $705 \hspace{1.5cm} 710 \hspace{1.5cm} 715 \hspace{1.5cm} 720$ 

Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr 725 730 735

Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr 740 745 750

Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr 770 780

<210> 159

<211> 780

<212> PRT

<213> Homo sapiens

<400> 159

Ser Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1  $\phantom{\bigg|}$  10  $\phantom{\bigg|}$  15

Asn Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys 35 40 45

Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu

	50					55					60				
Arg 65	Pro	Glu	Lys	Asn	Gly 70	Ala	Ala	Thr	Gly	Met 75	Asp	Ala	Ile	Cys	Ser 80
His	Arg	Leu	Asp	Pro 85	Lys	Ser	Pro	Gly	Leu 90	Asn	Arg	Glu	Gln	Leu 95	Tyr
Trp	Glu	Leu	Ser 100	Gln	Leu	Thr	His	Gly 105	Ile	Lys	Glu	Leu	Gly 110	Pro	Tyr
Thr	Leu	Asp 115	Arg	Asn	Ser	Leu	Tyr 120	Val	Asn	Gly	Phe	Thr 125	His	Arg	Ser
Ser	Val 130	Ala	Pro	Thr	Ser	Thr 135	Pro	Gly	Thr	Ser	Thr 140	Val	Asp	Leu	Gly
Thr 145	Ser	Gly	Thr	Pro	Ser 150	Ser	Leu	Pro	Ser	Pro 155	Thr	Thr	Ala	Val	Pro 160
Leu	Leu	Val	Pro	Phe 165	Thr	Leu	Asn	Phe	Thr 170	Ile	Thr	Asn	Leu	Gln 175	Tyr
Gly	Glu	Asp	Met 180	Arg	His	Pro	Gly	Ser 185	Arg	Lys	Phe	Asn	Thr 190	Thr	Glu
Arg	Val	Leu 195	Gln	Gly	Leu	Leu	Gly 200	Pro	Leu	Phe	Lys	Asn 205	Ser	Ser	Val
Gly	Pro 210	Leu	Tyr	Ser	Gly	Cys 215	Arg	Leu	Ile	Ser	Leu 220	Arg	Ser	Glu	Lys
Asp 225	Gly	Ala	Ala	Thr	Gly 230	Val	Asp	Ala	Ile	Cys 235	Thr	His	His	Leu	Asn 240
Pro	Gln	Ser	Pro	Gly 245	Leu	Asp	Arg	Glu	Gln 250	Leu	Tyr	Trp	Gln	Leu 255	Ser
Gln	Met	Thr	Asn 260	Gly	Ile	Lys	Glu	Leu 265	Gly	Pro	Tyr	Thr	Leu 270	Asp	Arg
Asn	Ser	Leu 275	Tyr	Val	Asn	Gly	Phe 280	Thr	His	Arg	Ser	Ser 285	Gly	Leu	Thr
Thr	Ser 290	Thr	Pro	Trp	Thr	Ser 295	Thr	Val	Asp	Leu	Gly 300	Thr	Ser	Gly	Thr
Pro 305	Ser	Pro	Val	Pro	Ser 310	Pro	Thr	Thr	Ala	Gly 315	Pro	Leu	Leu	Val	Pro 320
Phe	Thr	Leu	Asn	Phe 325	Thr	Ile	Thr	Asn	Leu 330	Gln	Tyr	Glu	Glu	Asp 335	Met
His	Arg	Pro	Gly 340	Ser	Arg	Lys	Phe	Asn 345	Ala	Thr	Glu	Arg	Val 350	Leu	Gln
Gly	Leu	Leu 355		Pro	Ile	Phe	Lys 360	Asn	Ser	Ser	Val	Gly 365	Pro	Leu	Tyr

Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro 390 395 Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe 450 Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Cys Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr 600 Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His Thr 615 Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr 630 635 Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe 650 645 Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys 660 665 Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu

680

685

Arg Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr 690 695 700

His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr  $705 \hspace{1.5cm} 710 \hspace{1.5cm} 715 \hspace{1.5cm} 720 \hspace{1.5cm}$ 

Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr 725 730 735

Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser 740  $\phantom{000}745$   $\phantom{000}750$ 

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala  $755 \hspace{1.5cm} 760 \hspace{1.5cm} 765$ 

Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr  $770 \ 780$ 

<210> 160

<211> 624

<212> PRT

<213> Homo sapiens

<400> 160

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Arg Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Thr Pro Leu Phe Lys 35 40 45

Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu 50 55 60

Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr 65 70 75 80

His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr 85 90 95

Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr  $100 \hspace{1cm} 100 \hspace{1cm} 105 \hspace{1cm} 110 \hspace{1cm}$ 

Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser 115 \$120\$

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala 130 135 140

Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro

150 155 160 145 Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asp Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr 295 Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe Ser Thr Thr Glu Arg Val Leu Gln 340 Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala 370 Thr Arg Val Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys Ser Pro 390 Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr His 405 Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Leu Tyr 425 Val Asn Gly Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr Pro 435 440 Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser Leu 450 455 460

Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn 465 470 475 480

Phe Thr Ile Thr Asn Gln Arg Tyr Glu Glu Asn Met His His Pro Gly  $485 \ \ 490 \ \ \ 495$ 

Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Arg 500 505 510

Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg 515 520 525

Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp 530 535 540

Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg 545 550 560

Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu 565 570 575

Leu Gly Pro Tyr Thr Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe 580 585 590

Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala 595 600 605

Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His Thr 610 615 620

<210> 161

<211> 468

<212> PRT

<213> Homo sapiens

<400> 161

Ala Thr Gly Pro Val Leu Leu Pro Phe Thr Leu Asn Phe Thr Ile Thr 1  $\phantom{\bigg|}$ 

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe  $20 \hspace{1cm} 25 \hspace{1cm} 30 \hspace{1cm}$ 

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Met Pro Leu Phe Lys 35 40 45

Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu 50 55 60

His Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr 85 90 95

Trp Lys Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr 105 Thr Leu Asp Arg His Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala 135 Thr Ser Arg Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Gln Asp Arg Asp Ser Leu Tyr Asn Val Gly Phe Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Val Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly Thr 290 Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Val Leu 310 Phe Thr Leu Asn Gly Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn Met 325 Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln 340 Gly Leu Leu Arg Ser Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr 355 360 Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Thr Ala Thr Gly Val Asp Ala Ile Cys Thr His His Pro Asp Pro Lys Ser Pro 385 390

Arg Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His

405

Asn Ile Thr Glu Leu Gly His Tyr Ala Leu Asp Asn Asp Ser Leu Phe

Val Asn Gly Phe Thr His Arg Ser Ser Val Ser Thr Thr Ser Thr Pro 440

Gly Thr Pro Thr Val Tyr Leu Gly Ala Ser Lys Thr Pro Ala Ser Ile 455

Phe Gly Pro Ser

465

<210> 162

<211> 11721

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> (1)..(11721)

<223> any x = any amino acid

<400> 162

Met Glu His Ile Thr Lys Ile Pro Asn Glu Ala Ala His Arg Gly Thr

Ile Arg Pro Val Lys Gly Pro Gln Thr Ser Thr Ser Pro Ala Ser Pro

Lys Gly Leu His Thr Gly Gly Thr Lys Arg Met Glu Thr Thr Thr Thr

Ala Leu Lys Thr Thr Thr Ala Leu Lys Thr Thr Ser Arg Ala Thr

Leu Thr Thr Ser Val Tyr Thr Pro Thr Leu Gly Thr Leu Thr Pro Leu

Asn Ala Ser Arg Gln Met Ala Ser Thr Ile Leu Thr Glu Met Met Ile

Thr Thr Pro Tyr Val Phe Pro Asp Val Pro Glu Thr Thr Ser Ser Leu 105

Ala Thr Ser Leu Gly Ala Glu Thr Ser Thr Ala Leu Pro Arg Thr Thr 115 120

Pro Ser Val Leu Asn Arg Glu Ser Glu Thr Thr Ala Ser Leu Val Ser 130 135 140

Arg Ser Gly Ala Glu Arg Ser Pro Val Ile Gln Thr Leu Asp Val Ser 145 150 155 160

Ser Ser Glu Pro Asp Thr Thr Ala Ser Trp Val Ile His Pro Ala Glu 165 170 175

Thr Ile Pro Thr Val Ser Lys Thr Thr Pro Asn Phe His Ser Glu 180 185 190

Leu Asp Thr Val Ser Ser Thr Ala Thr Ser His Gly Ala Asp Val Ser 195 200 205

Ser Ala Ile Pro Thr Asn Ile Ser Pro Ser Glu Leu Asp Ala Leu Thr 210 215 220

Pro Leu Val Thr Ile Ser Gly Thr Asp Thr Ser Thr Thr Phe Pro Thr 225 230 235

Leu Thr Lys Ser Pro His Glu Thr Glu Thr Arg Thr Thr Trp Leu Thr 245 250 255

His Pro Ala Glu Thr Ser Ser Thr Ile Pro Arg Thr Ile Pro Asn Phe  $260 \hspace{1.5cm} 265 \hspace{1.5cm} 270 \hspace{1.5cm}$ 

Ser His His Glu Ser Asp Ala Thr Pro Ser Ile Ala Thr Ser Pro Gly 275 280 285

Ala Glu Thr Ser Ser Ala Ile Pro Ile Met Thr Val Ser Pro Gly Ala 290 295 300

Glu Asp Leu Val Thr Ser Gln Val Thr Ser Ser Gly Thr Asp Arg Asn 305  $\phantom{\bigg|}$  310  $\phantom{\bigg|}$  315  $\phantom{\bigg|}$  320

Met Thr Ile Pro Thr Leu Thr Leu Ser Pro Gly Glu Pro Lys Thr Ile 325 330 335

Ala Ser Leu Val Thr His Pro Glu Ala Gln Thr Ser Ser Ala Ile Pro  $340 \hspace{1.5cm} 345 \hspace{1.5cm} 350 \hspace{1.5cm}$ 

Thr Ser Thr Ile Ser Pro Ala Val Ser Arg Leu Val Thr Ser Met Val 355 360 365

Thr Ser Leu Ala Ala Lys Thr Ser Thr Thr Asn Arg Ala Leu Thr Asn 370 375 380

Ser Pro Gly Glu Pro Ala Thr Thr Val Ser Leu Val Thr His Pro Ala 385 390 395 400

Gln Thr Ser Pro Thr Val Pro Trp Thr Thr Ser Ile Phe Phe His Ser

Ser Ser Ala Val Pro Thr Pro Thr Val Ser Thr Glu Val Pro Gly Val

435 440 445 Val Thr Pro Leu Val Thr Ser Ser Arg Ala Val Ile Ser Thr Thr Ile 455 Pro Ile Leu Thr Leu Ser Pro Gly Glu Pro Glu Thr Thr Pro Ser Met 475 470 Ala Thr Ser His Gly Glu Glu Ala Ser Ser Ala Ile Pro Thr Pro Thr 490 Val Ser Pro Gly Val Pro Gly Val Val Thr Ser Leu Val Thr Ser Ser 505 Arg Ala Val Thr Ser Thr Thr Ile Pro Ile Leu Thr Phe Ser Leu Gly Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Thr Glu Ala Gly Ser Ala Val Pro Thr Val Leu Pro Glu Val Pro Gly Met Val Thr 550 Ser Leu Val Ala Ser Ser Arg Ala Val Thr Ser Thr Thr Leu Pro Thr Leu Thr Leu Ser Pro Gly Glu Pro Glu Thr Thr Pro Ser Met Ala Thr 585 Ser His Gly Ala Glu Ala Ser Ser Thr Val Pro Thr Val Ser Pro Glu Val Pro Gly Val Val Thr Ser Leu Val Thr Ser Ser Ser Gly Val Asn 615 Ser Thr Ser Ile Pro Thr Leu Ile Leu Ser Pro Gly Glu Leu Glu Thr 625 Thr Pro Ser Met Ala Thr Ser His Gly Ala Glu Ala Ser Ser Ala Val Pro Thr Pro Thr Val Ser Pro Gly Val Ser Gly Val Val Thr Pro Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr Thr Ile Pro Ile Leu Thr Leu Ser Ser Ser Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His 690 Gly Val Glu Ala Ser Ser Ala Val Leu Thr Val Ser Pro Glu Val Pro Gly Met Val Thr Ser Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr 730 Thr Ile Pro Thr Leu Thr Ile Ser Ser Asp Glu Pro Glu Thr Thr 745 740

- Ser Leu Val Thr His Ser Glu Ala Lys Met Ile Ser Ala Ile Pro Thr 755 760 765
- Leu Ala Val Ser Pro Thr Val Gln Gly Leu Val Thr Ser Leu Val Thr 770 775 780
- Ser Ser Gly Ser Glu Thr Ser Ala Phe Ser Asn Leu Thr Val Ala Ser 785  $\phantom{\bigg|}790\phantom{\bigg|}790\phantom{\bigg|}795\phantom{\bigg|}795\phantom{\bigg|}$
- Ser Gln Pro Glu Thr Ile Asp Ser Trp Val Ala His Pro Gly Thr Glu 805 810 815
- Ala Ser Ser Val Val Pro Thr Leu Thr Val Ser Thr Gly Glu Pro Phe  $820 \hspace{1.5cm} 825 \hspace{1.5cm} 830 \hspace{1.5cm}$
- Thr Asn Ile Ser Leu Val Thr His Pro Ala Glu Ser Ser Ser Thr Leu 835 840 845
- Pro Arg Thr Thr Ser Arg Phe Ser His Ser Glu Leu Asp Thr Met Pro 850 850 860
- Ser Thr Val Thr Ser Pro Glu Ala Glu Ser Ser Ser Ala Ile Ser Thr 865 870 875 880
- Thr Ile Ser Pro Gly Ile Pro Gly Val Leu Thr Ser Leu Val Thr Ser
- Ser Gly Arg Asp Ile Ser Ala Thr Phe Pro Thr Val Pro Glu Ser Pro 900 905 910
- His Glu Ser Glu Ala Thr Ala Ser Trp Val Thr His Pro Ala Val Thr 915 920 925
- Ser Thr Thr Val Pro Arg Thr Thr Pro Asn Tyr Ser His Ser Glu Pro  $930 \\ \hspace*{1.5cm} 935 \\ \hspace*{1.5cm} 940 \\ \hspace*{1.5cm}$
- Asp Thr Thr Pro Ser Ile Ala Thr Ser Pro Gly Ala Glu Ala Thr Ser 945 955 960
- Asp Phe Pro Thr Ile Thr Val Ser Pro Asp Val Pro Asp Met Val Thr 965 970 970
- Ser Gln Val Thr Ser Ser Gly Thr Asp Thr Ser Ile Thr Ile Pro Thr 980 985 990
- Leu Thr Leu Ser Ser Gly Glu Pro Glu Thr Thr Ser Phe Ile Thr 995  $\phantom{\bigg|}$  1000  $\phantom{\bigg|}$
- Tyr Ser Glu Thr His Thr Ser Ser Ala Ile Pro Thr Leu Pro Val 1010 1015 1020
- Ser Pro Gly Ala Ser Lys Met Leu Thr Ser Leu Val Ile Ser Ser 1025 1030 1035
- Gly Thr Asp Ser Thr Thr Thr Phe Pro Thr Leu Thr Glu Thr Pro 1040 1045 1050
- Tyr Glu Pro Glu Thr Thr Ala Ile Gln Leu Ile His Pro Ala Glu 1055 1060 1065

Thr	Asn 1070	Thr	Met	Val	Pro	Arg 1075	Thr	Thr	Pro	Lys	Phe 1080	Ser	His	Ser
Lys	Ser 1085	Asp	Thr	Thr	Leu	Pro 1090	Val	Ala	Ile	Thr	Ser 1095	Pro	G1y	Pro
Glu	Ala 1100	Ser	Ser	Ala	Va1	Ser 1105	Thr	Thr	Thr	I1e	Ser 1110	Pro	Asp	Met
Ser	Asp 1115	Leu	Va1	Thr	Ser	Leu 1120	Val	Pro	Ser	Ser	Gly 1125		Asp	Thr
Ser	Thr 1130	Thr	Phe	Pro	Thr	Leu 1135	Ser	Glu	Thr	Pro	Tyr 1140	Glu	Pro	Glu
Thr	Thr 1145	Ala	Thr	Trp	Leu	Thr 1150	His	Pro	Ala	G1u	Thr 1155	Ser	Thr	Thr
Val	Ser 1160	Gly	Thr	Ile	Pro	Asn 1165	Phe	Ser	His	Arg	Gly 1170	Ser	Asp	Thr
Ala	Pro 1175	Ser	Met	Val	Thr	Ser 1180	Pro	Gly	Val	Asp	Thr 1185	Arg	Ser	Gly
Val	Pro 1190	Thr	Thr	Thr	Ile	Pro 1195	Pro	Ser	Ile	Pro	G1y 1200	Val	Val	Thr
Ser	Gln 1205	Val	Thr	Ser	Ser	Ala 1210	Thr	Asp	Thr	Ser	Thr 1215	Ala	Ile	Pro
Thr	Leu 1220	Thr	Pro	Ser	Pro	Gly 1225	Glu	Pro	Glu	Thr	Thr 1230	Ala	Ser	Ser
Ala	Thr 1235		Pro	Gly	Thr	Gln 1240		Gly	Phe	Thr	Val 1245	Pro	Ile	Arg
Thr	Val 1250		Ser	Ser	Glu	Pro 1255		Thr	Met	Ala	Ser 1260		Val	Thr
His	Pro 1265		Gln	Thr	Ser	Thr 1270		Val	Ser	Arg	Thr 1275		Ser	Ser
Phe	Ser 1280	His	Ser	Ser	Pro	Asp 1285	Ala	Thr	Pro	Va1	Met 1290	Ala	Thr	Ser
Pro	Arg 1295		Glu	Ala	Ser	Ser 1300		Val	Leu	Thr	Thr 1305	Ile	Ser	Pro
Gly	Ala 1310		Glu	Met	Val	Thr 1315		Gln	I1e	Thr	Ser 1320		Gly	Ala
A1a	Thr 1325		Thr	Thr	Val	Pro 1330		Leu	Thr	His	Ser 1335		Gly	Met
Pro	Glu 1340		Thr	Ala	Leu	Leu 1345		Thr	His	Pro	Arg 1350		Glu	Thr

Ser Lys Thr Phe Pro Ala Ser Thr Val Phe Pro Gln Val Ser Glu

	1355					1360					1365			
Thr	Thr 1370	Ala	Ser	Leu	Thr	Ile 1375	Arg	Pro	Gly	Ala	Glu 1380	Thr	Ser	Thr
Ala	Leu 1385	Pro	Thr	Gln	Thr	Thr 1390	Ser	Ser	Leu	Phe	Thr 1395	Leu	Leu	Val
Thr	Gly 1400	Thr	Ser	Arg	Val	Asp 1405	Leu	Ser	Pro	Thr	Ala 14 <b>1</b> 0	Ser	Pro	Gly
Val	Ser 1415	Ala	Lys	Thr	Ala	Pro 1420	Leu	Ser	Thr	His	Pro 1425	Gly	Thr	Glu
Thr	Ser 1430	Thr	Met	Ile	Pro	Thr 1435	Ser	Thr	Leu	Ser	Leu 1440	Gly	Leu	Leu
Glu	Thr 1445	Thr	Gly	Leu	Leu	Ala 1450	Thr	Ser	Ser	Ser	Ala 1455	Glu	Thr	Ser
Thr	Ser 1460	Thr	Leu	Thr	Leu	Thr 1465	Val	Ser	Pro	Ala	Val 1470	Ser	Gly	Leu
Ser	Ser 1475	Ala	Ser	Ile	Thr	Thr 1480		Lys	Pro	Gln	Thr 1485	Val	Thr	Ser
Trp	Asn 1490		Glu	Thr	Ser	Pro 1495		Val	Thr	Ser	Val 1500	Gly	Pro	Pro
Glu	Phe 1505	Ser	Arg	Thr	Val	Thr 1510	Gly	Thr	Thr	Met	Thr 1515	Leu	Ile	Pro
Ser	Glu 1520	Met	Pro	Thr	Pro	Pro 1525	Lys	Thr	Ser	His	Gly 1530	Glu	Gly	Val
Ser	Pro 1535		Thr	Ile	Leu	Arg 1540	Thr	Thr	Met	Val	Glu 1545	Ala	Thr	Asn
Leu	Ala 1550		Thr	Gly	Ser	Ser 1555		Thr	Val	Ala	Lys 1560		Thr	Thr
Thr	Phe 1565		Thr	Leu	Ala	Gly 1570	Ser	Leu	Phe	Thr	Pro 1575	Leu	Thr	Thr
Pro	Gly 1580		Ser	Thr	Leu	Ala 1585		Glu	Ser	Val	Thr 1590	Ser	Arg	Thr
Ser	Tyr 1595		His	Arg	Ser	Trp 1600		Ser	Thr	Thr	Ser 1605	Ser	Tyr	Asn
Arg	Arg 1610		Trp	Thr	Pro	Ala 1615		Ser	Thr	Pro	Val 1620	Thr	Ser	Thr
Phe	Ser 1625		Gly	Ile	Ser	Thr 1630		Ser	Ile	Pro	Ser 1635	Ser	Thr	Ala
Ala	Thr 1640		Pro	Phe	Met	Val 1645		Phe	Thr	Leu	Asn 1650	Phe	Thr	Ile

Thr	Asn 1655	Leu	Gln	Tyr	Glu	Glu 1660	Asp	Met	Arg	His	Pro 1665	Gly	Ser	Arg
Lys	Phe 1670	Asn	Ala	Thr	Glu	Arg 1675	Glu	Leu	Gln	Gly	Leu 1680	Leu	Lys	Pro
Leu	Phe 1685	Arg	Asn	Ser	Ser	Leu 1690	Glu	Tyr	Leu	Tyr	Ser 1695	Gly	Cys	Arg
Leu	Ala 1700	Ser	Leu	Arg	Pro	Glu 1705	Lys	Asp	Ser	Ser	Ala 1710	Met	Ala	Val
Asp	Ala 1715	Ile	Cys	Thr	His	Arg 1720	Pro	Asp	Pro	Glu	Asp 1725	Leu	Gly	Leu
Asp	Arg 1730	Glu	Arg	Leu	Tyr	Trp 1735	Glu	Leu	Ser	Asn	Leu 1740	Thr	Asn	Gly
Ile	Gln 1745	Glu	Leu	Gly	Pro	Tyr 1750	Thr	Leu	Asp	Arg	Asn 1755	Ser	Leu	Tyr
Val	Asn 1760	Gly	Phe	Thr	His	Arg 1765	Ser	Ser	Met	Pro	Thr 1770	Thr	Ser	Thr
Pro	Gly 1775		Ser	Thr	Val	Asp 1780	Val	Gly	Thr	Ser	Gly 1785	Thr	Pro	Ser
Ser	Ser 1790		Ser	Pro	Thr	Ala 1795	Ala	Gly	Pro	Leu	Leu 1800	Met	Pro	Phe
Thr	Leu 1805		Phe	Thr	Ile	Thr 1810		Leu	Gln	Tyr	Glu 1815	Glu	Asp	Met
	Arg 1820				_	Lys 1825					Glu 1830		Val	
	1835					1840					Ser 1845			
	1850					1855					Pro 1860			
	1865					1870					His 1875			
Pro	Lys 1880					1885					Tyr 1890			Leu
Ser	Lys 1895		Thr	Asn	Asp	11e 1900					1905	_		Leu
Asp	Arg 1910	1			_	Val 1915		_			His 1920			Ser
Val	Ser 1925	,				1930					Val 1935			. Arg
Thr	Ser 1940		Thr	Pro	Ser	Ser 1945		Ser	Ser	Pro	Thr 1950	Ile	Met	Ala

Ala	Gly 1955	Pro	Leu	Leu	Val	Pro 1960	Phe	Thr	Leu	Asn	Phe 1965	Thr	Ile	Thr
Asn	Leu 1970	Gln	Tyr	Gly	Glu	Asp 1975	Met	Gly	His	Pro	Gly 1980	Ser	Arg	Lys
Phe	Asn 1985	Thr	Thr	Glu	Arg	Val 1990	Leu	Gln	Gly	Leu	Leu 1995	Gly	Pro	Ile
Phe	Lys 2000	Asn	Thr	Ser	Val	Gly 2005	Pro	Leu	Tyr	Ser	Gly 2010	Cys	Arg	Leu
Thr	Ser 2015	Leu	Arg	Ser	Glu	Lys 2020	Asp	Gly	Ala	Ala	Thr 2025	Gly	Val	Asp
Ala	Ile 2030	Cys	Ile	His	His	Leu 2035	Asp	Pro	Lys	Ser	Pro 2040	Gly	Leu	Asn
Arg	Glu 2045	Arg	Leu	Tyr	Trp	Glu 2050	Leu	Ser	Gln	Leu	Thr 2055	Asn	Gly	Ile
Lys	Glu 2060		Gly	Pro	Tyr	Thr 2065	Leu	Asp	Arg	Asn	Ser 2070	Leu	Tyr	Val
Asn	Gly 2075		Thr	His	Arg	Thr 2080		Val	Pro	Thr	Ser 2085	Ser	Thr	Pro
Gly	Thr 2090		Thr	Val	Asp	Leu 2095	Gly	Thr	Ser	Gly	Thr 2100	Pro	Phe	Ser
Leu	Pro 2105		Pro	Ala	Thr	Ala 2110	Gly	Pro	Leu	Leu	Val 2115	Leu	Phe	Thr
Leu	Asn 2120		Thr	Ile	Thr	Asn 2125		Lys	Tyr	Glu	Glu 2130	Asp	Met	His
Arg	Pro 2135		Ser	Arg	Lys	Phe 2140	Asn	Thr	Thr	Glu	Arg 2145	Val	Leu	Gln
Thr	Leu 2150		Gly	Pro	Met	Phe 2155		Asn	Thr	Ser	Val 2160	Gly	Leu	Leu
Tyr	Ser 2165		Cys	Arg	Leu	Thr 2170		Leu	Arg	Ser	Glu 2175		Asp	Gly
Ala	Ala 2180		Gly	Val	Asp	Ala 2185		Cys	Thr	His	Arg 2190		Asp	Pro
Lys	Ser 2195		Gly	Leu	Asp	Arg 2200		Gln	Leu	Tyr	Trp 2205	Glu	Leu	Ser
Gln	Leu 2210		Asn	Gly	Ile	Lys 2215	Glu	Leu	Gly	Pro	Tyr 2220	Thr	Leu	Asp
Arg	Asn 2225		Leu	Tyr	Val	Asn 2230	Gly	Phe	Thr	His	Trp 2235	Ile	Pro	Val

Pro Thr Ser Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Ser

	2240					2245					2250			
Gly	Thr 2255	Pro	Ser	Ser	Leu	Pro 2260	Ser	Pro	Thr	Ala	Ala 2265	Gly	Pro	Leu
Leu	Val 2270	Pro	Phe	Thr	Leu	Asn 2275	Phe	Thr	Ile	Thr	Asn 2280	Leu	Gln	Tyr
Glu	Glu 2285	Asp	Met	His	His	Pro 2290	Gly	Ser	Arg	Lys	Phe 2295	Asn	Thr	Thr
Glu	Arg 2300	Val	Leu	Gln	Gly	Leu 2305	Leu	Gly	Pro	Met	Phe 2310	Lys	Asn	Thr
Ser	Val 2315	Gly	Leu	Leu	Tyr	Ser 2320	Gly	Cys	Arg	Leu	Thr 2325	Leu	Leu	Arg
Ser	Glu 2330	Lys	Asp	Gly	Ala	Ala 2335	Thr	Gly	Val	Asp	Ala 2340	Ile	Cys	Thr
His	Arg 2345	Leu	Asp	Pro	Lys	Ser 2350	Pro	Gly	Val	Asp	Arg 2355	Glu	Gln	Leu
Tyr	Trp 2360	Glu	Leu	Ser	Gln	Leu 2365		Asn	Gly	Ile	Lys 2370	Glu	Leu	Gly
Pro	Tyr 2375	Thr	Leu	Asp	Arg	Asn 2380		Leu	Tyr	Val	Asn 2385	Gly	Phe	Thr
His	Gln 2390		Ser	Ala	Pro	Asn 2395		Ser	Thr	Pro	Gly 2400	Thr	Ser	Thr
Val	Asp 2405		Gly	Thr	Ser	Gly 2410		Pro	Ser	Ser	Leu 2415	Pro	Ser	Pro
Thr	Ser 2420	Ala	Gly	Pro	Leu	Leu 2425	Val	Pro	Phe	Thr	Leu 2430	Asn	Phe	Thr
Ile	Thr 2435		Leu	Gln	Tyr	Glu 2440	Glu	Asp	Met	Arg	His 2445	Pro	Gly	Ser
Arg	Lys 2450		Asn	Thr	Thr	Glu 2455	Arg	Val	Leu	Gln	Gly 2460	Leu	Leu	Lys
Pro	Leu 2465		Lys	Ser	Thr	Ser 2470		Gly	Pro	Leu	Tyr 2475		Gly	Cys
Arg	Leu 2480		Leu	Leu	Arg	Ser 2485		Lys	Asp	Gly	Ala 2490	Ala	Thr	Gly
Val	Asp 2495		Ile	Cys	Thr	His 2500		Leu	Asp	Pro	Lys 2505	Ser	Pro	Gly
	2510	ı				2515					Gln 2520			
Gly	11e 2525		Glu	Leu	Gly	Pro 2530	Tyr	Thr	Leu	Asp	Arg 2535	Asn	Ser	Leu

Tyr	Val 2540	Asn	Gly	Phe	Thr	His 2545	Gln	Thr	Ser	Ala	Pro 2550	Asn	Thr	Ser
	Pro 2555	Gly	Thr	Ser	Thr	Val 2560	Asp	Leu	Gly	Thr	Ser 2565	Gly	Thr	Pro
Ser	Ser 2570	Leu	Pro	Ser	Pro	Thr 2575	Ser	Ala	Gly	Pro	Leu 2580	Leu	Val	Pro
Phe	Thr 2585	Leu	Asn	Phe	Thr	Ile 2590	Thr	Asn	Leu	Gln	Tyr 2595	Glu	Glu	Asp
Met	His 2600	His	Pro	Gly	Ser	Arg 2605	Lys	Phe	Asn	Thr	Thr 2610	Glu	Arg	Val
Leu	Gln 2615	Gly	Leu	Leu	Gly	Pro 2620	Met	Phe	Lys	Asn	Thr 2625	Ser	Val	Gly
Leu	Leu 2630		Ser	Gly	Суѕ	Arg 2635	Leu	Thr	Leu	Leu	Arg 2640	Pro	Glu	Lys
Asn	Gly 2645		Ala	Thr	Gly	Met 2650		Ala	Ile	Cys	Ser 2655	His	Arg	Leu
Asp	Pro 2660		Ser	Pro	Gly	Leu 2665	Asn	Arg	Glu	Gln	Leu 2670	Tyr	Trp	Glu
Leu	Ser 2675		Leu	Thr	His	Gly 2680	Ile	Lys	Glu	Leu	Gly 2685	Pro	Tyr	Thr
Leu	Asp 2690		Asn	Ser	Leu	Tyr 2695	Val	Asn	Gly	Phe	Thr 2700	His	Arg	Ser
Ser	Val 2705	Ala	Pro	Thr	Ser	Thr 2710	Pro	Gly	Thr	Ser	Thr 2715	Val	Asp	Leu
Gly	Thr 2720		Gly	Thr	Pro	Ser 2725	Ser	Leu	Pro	Ser	Pro 2730	Thr	Thr	Ala
Val	Pro 2735		Leu	Val	Pro	Phe 2740	Thr	Leu	Asn	Phe	Thr 2745	Ile	Thr	Asn
Leu	Gln 2750		Gly	Glu	Asp	Met 2755		His	Pro	Gly	Ser 2760	Arg	Lys	Phe
Asn	Thr 2765		Glu	Arg	Val	Leu 2770		Gly	Leu	Leu	Gly 2775	Pro	Leu	Phe
Lys	Asn 2780		Ser	Val	. Gly	Pro 2785		Tyr	Ser	Gly	Cys 2790	Arg	Leu	Ile
Ser	Leu 2795	Arg	g Ser	Glu	Lys	Asp 2800	Gly	/ Ala	a Ala	Thr	Gly 2805	Val	Asp	Ala
Ile	Cys 2810		His	His	Leu	Asn 2815		Glr	ı Ser	Pro	Gly 2820	Leu	Asp	Arg
Glu	Gln 2825		ı Tyr	Trp	Glr	Leu 2830	Ser	Glr	n Met	Thr	2835	Gly	Ile	Lys

Glu	Leu 2840	Gly	Pro	Tyr	Thr	Leu 2845	Asp	Arg	Asn	Ser	Leu 2850	Tyr	Val	Asn
Gly	Phe 2855	Thr	His	Arg	Ser	Ser 2860	Gly	Leu	Thr	Thr	Ser 2865	Thr	Pro	Trp
Thr	Ser 2870	Thr	Val	Asp	Leu	Gly 2875	Thr	Ser	Gly	Thr	Pro 2880	Ser	Pro	Val
Pro	Ser 2885	Pro	Thr	Thr	Ala	Gly 2890	Pro	Leu	Leu	Val	Pro 2895	Phe	Thr	Leu
Asn	Phe 2900	Thr	Ile	Thr	Asn	Leu 2905	Gln	Tyr	Glu	Glu	Asp 2910	Met	His	Arg
Pro	Gly 2915	Ser	Arg	Lys	Phe	Asn 2920	Ala	Thr	Glu	Arg	Val 2925	Leu	Gln	Gly
Leu	Leu 2930	Ser	Pro	Ile	Phe	Lys 2935	Asn	Ser	Ser	Va1	Gly 2940	Pro	Leu	Tyr
Ser	Gly 2945	Cys	Arg	Leu	Thr	Ser 2950	Leu	Arg	Pro	Glu	Lys 2955	Asp	Gly	Ala
Ala	Thr 2960		Met	Asp	Ala	Val 2965		Leu	Tyr	His	Pro 2970	Asn	Pro	Lys
Arg	Pro 2975		Leu	Asp	Arg	Glu 2980		Leu	Tyr	Trp	Glu 2985	Leu	Ser	Gln
Leu	Thr 2990		Asn	Ile	Thr	Glu 2995		Gly	Pro	Tyr	Ser 3000		Asp	Arg
Asp	Ser 3005		Tyr	Val	Asn	Gly 3010	Phe	Thr	His	Gln	Asn 3015		Val	Pro
Thr	Thr 3020		Thr	Pro	Gly	Thr 3025		Thr	Val	Tyr	Trp 3030		Thr	Thr
Gly	Thr 3035		Ser	Ser	Phe	Pro 3040		His	Thr	Glu	Pro 3045	Gly	Pro	Leu
Leu	Ile 3050		Phe	Thr	Phe	Asn 3055		Thr	Ile	Thr	Asn 3060		His	Tyr
Glu	Glu 3065		Met	Gln	His	Pro 3070		Ser	Arg	Lys	Phe 3075	Asn	Thr	Thr
Glu	Arg 3080		Leu	Gln	Gly	Leu 3085		Lys	Pro	Leu	Phe 3090		Asn	Thr
Ser	Val 3095		Pro	Leu	Tyr	Ser 3100		Cys	Arg	Leu	Thr 3105	Ser	Leu	Arg
Pro	Glu 3110		Asp	Gly	Ala	Ala 3115		Gly	Met	Asp	Ala 3120		Cys	Leu

Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu

	3125					3130					3135			
Tyr	Cys 3140	Glu	Leu	Ser	Gln	Leu 3145	Thr	His	Asn	Ile	Thr 3150	Glu	Leu	Gly
Pro	Tyr 3155	Ser	Leu	Asp	Arg	Asp 3160	Ser	Leu	Tyr	Val	Asn 3165	Gly	Phe	Thr
His	Gln 3170		Ser	Val	Pro	Thr 3175	Thr	Ser	Thr	Pro	Gly 3180	Thr	Ser	Thr
Val	Tyr 3185	Trp	Ala	Thr	Thr	Gly 3190	Thr	Pro	Ser	Ser	Phe 3195	Pro	Gly	His
Thr	Glu 3200	Pro	Gly	Pro	Leu	Leu 3205	Ιle	Pro	Phe	Thr	Phe 3210	Asn	Phe	Thr
Ile	Thr 3215	Asn	Leu	His	Tyr	Glu 3220	Glu	Asn	Met	Gln	His 3225	Pro	Gly	Ser
Arg	Lys 3230	Phe	Asn	Thr	Thr	Glu 3235	Arg	Val	Leu	Gln	Gly 3240	Leu	Leu	Lys
Pro	Leu 3245	Phe	Lys	Asn	Thr	Ser 3250	Va1	Gly	Pro	Leu	Tyr 3255	Ser	Gly	Cys
Arg	Leu 3260		Leu	Leu	Arg	Pro 3265	Glu	Lys	His	Glu	Ala 3270	Ala	Thr	Gly
Val	Asp 3275	Thr	Ile	Cys	Thr	His 3280	Arg	Val	Asp	Pro	Ile 3285	Gly	Pro	Gly
Leu	Asp 3290	Arg	Glu	Arg	Leu	Tyr 3295	Trp	Glu	Leu	Ser	Gln 3300	Leu	Thr	Asn
Ser	Ile 3305	Thr	Glu	Leu	Gly	Pro 3310	Tyr	Thr	Leu	Asp	Arg 3315	Asp	Ser	Leu
Tyr	Val 3320	Asn	Gly	Phe	Asn	Pro 3325	Arg	Ser	Ser	Val	Pro 3330	Thr	Thr	Ser
Thr	Pro 3335	Gly	Thr	Ser	Thr	Val 3340	His	Leu	Ala	Thr	Ser 3345	Gly	Thr	Pro
Ser	Ser 3350	Leu	Pro	Gly	His	Thr 3355	Ala	Pro	Val	Pro	Leu 3360	Leu	Ile	Pro
Phe	Thr 3365	Leu	Asn	Phe	Thr	Ile 3370	Thr	Asn	Leu	His	Tyr 3375	Glu	Glu	Asn
Met	Gln 3380	His	Pro	Gly	Ser	Arg 3385	Lys	Phe	Asn	Thr	Thr 3390	Glu	Arg	Val
Leu	Gln 3395	Gly	Leu	Leu	Lys	Pro 3400	Leu	Phe	Lys	Asn	Thr 3405	Ser	Val	Gly
Pro	Leu 3410	Tyr	Ser	Gly	Cys	Arg 3415	Leu	Thr	Leu	Leu	Arg 3420	Pro	Glu	Lys

His	Glu 3425	Ala	Ala	Thr	Gly	Val 3430	Asp	Thr	Ile	Cys	Thr 3435	His	Arg	Val
Asp	Pro 3440	Ile	Gly	Pro	Gly	Leu 3445	Asp	Arg	Glu	Xaa	Leu 3450	Tyr	Trp	Glu
Leu	Ser 3455	Xaa	Leu	Thr	Xaa	Xaa 3460	Ile	Xaa	Glu	Leu	Gly 3465	Pro	Tyr	Xaa
Leu	Asp 3470	Arg	Xaa	Ser	Leu	Tyr 3475	Val	Asn	Gly	Phe	Xaa 3480	Xaa	Xaa	Xaa
Xaa	Xaa 3485	Xaa	Xaa	Thr	Ser	Thr 3490	Pro	Gly	Thr	Ser	Xaa 3495	Val	Xaa	Leu
Xaa	Thr 3500	Ser	Gly	Thr	Pro	Xaa 3505	Xaa	Xaa	Pro	Xaa	Xaa 3510	Thr	Ser	Ala
Gly	Pro 3515	Leu	Leu	Val	Pro	Phe 3520	Thr	Leu	Asn	Phe	Thr 3525	Ile	Thr	Asn
Leu	Gln 3530	Tyr	Glu	Glu	Asp	Met 3535	His	His	Pro	Gly	Ser 3540	Arg	Lys	Phe
Asn	Thr 3545	Thr	Glu	Arg	Val	Leu 3550	Gln	Gly	Leu	Leu	Gly 3555	Pro	Met	Phe
Lys	Asn 3560		Ser	Val	Gly	Leu 3565	Leu	Tyr	Ser	Gly	Cys 3570	Arg	Leu	Thr
Leu	Leu 3575	Arg	Pro	Glu	Lys	Asn 3580	Gly	Ala	Ala	Thr	Gly 3585	Met	Asp	Ala
Ile	Cys 3590	Ser	His	Arg	Leu	Asp 3595	Pro	Lys	Ser	Pro	Gly 3600	Leu	Asp	Arg
Glu	Gln 3605	Leu	Tyr	Trp	Glu	Leu 3610		Gln	Leu	Thr	His 3615	Gly	Ile	Lys
Glu	Leu 3620		Pro	Tyr	Thr	Leu 3625	Asp	Arg	Asn	Ser	Leu 3630	Tyr	Val	Asn
Gly	Phe 3635		His	Arg	Ser	Ser 3640	Val	Ala	Pro	Thr	Ser 3645		Pro	Gly
Thr	Ser 3650		Val	Asp	Leu	Gly 3655		Ser	Gly	Thr	Pro 3660		Ser	Leu
Pro	Ser 3665	Pro	Thr	Thr	Ala	Val 3670		Leu	Leu	Val	Pro 3675	Phe	Thr	Leu
Asn	Phe 3680		Ile	Thr	Asn	Leu 3685	Gln	Tyr	Gly	Glu	Asp 3690	Met	Arg	His
Pro	Gly 3695		Arg	Lys	Phe	Asn 3700		Thr	Glu	Arg	Val 3705		Gln	Gly
Leu	Leu 3710		Pro	Leu	Phe	Lys 3715		Ser	Ser	Val	Gly 3720		Leu	Tyr

Ser	Gly 3725	Cys	Arg	Leu	Ile	Ser 3730	Leu	Arg	Ser	Glu	Lys 3735	Asp	Gly	Ala
Ala	Thr 3740	Gly	Val	Asp	Ala	Ile 3745	Cys	Thr	His	His	Leu 3750	Asn	Pro	Gln
Ser	Pro 3755	Gly	Leu	Asp	Arg	Glu 3760		Leu	Tyr	Trp	Gln 3765	Leu	Ser	Gln
Met	Thr 3770	Asn	Gly	Ile	Lys	Glu 3775	Leu	Gly	Pro	Tyr	Thr 3780		Asp	Arg
Asn	Ser 3785	Leu	Tyr	Val	Asn	Gly 3790	Phe	Thr	His	Arg	Ser 3795	Ser	Gly	Leu
Thr	Thr 3800	Ser	Thr	Pro	Trp	Thr 3805	Ser	Thr	Val	Asp	Leu 3810	Gly	Thr	Ser
G1 y	Thr 3815	Pro	Ser	Pro	Val	Pro 3820	Ser	Pro	Thr	Thr	Ala 3825	Gly	Pro	Leu
Leu	Val 3830	Pro	Phe	Thr	Leu	Asn 3835	Phe	Thr	Ile	Thr	Asn 3840	Leu	Gln	Tyr
Glu	Glu 3845	Asp	Met	His	Arg	Pro 3850	Gly	Ser	Arg	Lys	Phe 3855	Asn	Ala	Thr
Glu	Arg 3860	Val	Leu	Gln	Gly	Leu 3865	Leu	Ser	Pro	Ile	Phe 3870	Lys	Asn	Ser
Ser	Val 3875	Gly	Pro	Leu	Tyr	Ser 3880	Gly	Cys	Arg	Leu	Thr 3885	Ser	Leu	Arg
Pro	Glu 3890	Lys	Asp	Gly	Ala	Ala 3895	Thr	Gly	Met	Asp	Ala 3900	Val	Cys	Leu
Tyr	His 3905	Pro	Asn	Pro	Lys	Arg 3910	Pro	Gly	Leu	Asp	Arg 3915	Glu	Gln	Leu
Tyr	Trp 3920	Glu	Leu	Ser	Gln	Leu 3925	Thr	His	Asn	Ile	Thr 3930	Glu	Leu	Gly
Pro	Tyr 3935	Ser	Leu	Asp	Arg	Asp 3940	Ser	Leu	Tyr	Val	Asn 3945	Gly	Phe	Thr
His	Gln 3950	Ser	Ser	Met	Thr	Thr 3955	Thr	Arg	Thr	Pro	Asp 3960	Thr	Ser	Thr
Met	His 3965	Leu	Ala	Thr	Ser	Arg 3970	Thr	Pro	Ala	Ser	Leu 3975	Ser	Gly	Pro
Thr	Thr 3980	Ala	Ser	Pro	Leu	Leu 3985	Val	Leu	Phe	Thr	Ile 3990	Asn	Cys	Thr
Ile	Thr 3995	Asn	Leu	Gln	Tyr	Glu 4000	Glu	Asp	Met	Arg	Arg 4005	Thr	Gly	Ser
Arg	Lys	Phe	Asn	Thr	Met	Glu	Ser	Val	Leu	Gln	Gly	Leu	Leu	Lys

	4010					4015					4020			
Pro	Leu 4025	Phe	Lys	Asn	Thr	Ser 4030	Val	Gly	Pro	Leu	Tyr 4035	Ser	Gly	Cys
Arg	Leu 4040	Thr	Leu	Leu	Arg	Pro 4045	Lys	Lys	Asp	Gly	Ala 4050	Ala	Thr	Gly
Val	Asp 4055	Ala	Ile	Cys	Thr	His 4060	Arg	Leu	Asp	Pro	Lys 4065	Ser	Pro	Gly
Leu	Asn 4070	Arg	Glu	Gln	Leu	Tyr 4075	Trp	Glu	Leu	Ser	Lys 4080	Leu	Thr	Asn
Asp	Ile 4085	Glu	Glu	Leu	Gly	Pro 4090	Tyr	Thr	Leu	Asp	Arg 4095	Asn	Ser	Leu
Tyr	Val 4100	Asn	Gly	Phe	Thr	His 4105	Gln	Ser	Ser	Val	Ser 4110	Thr	Thr	Ser
Thr	Pro 4115	Gly	Thr	Ser	Thr	Val 4120	Asp	Leu	Arg	Thr	Ser 4125	Gly	Thr	Pro
Ser	Ser 4130	Leu	Ser	Ser	Pro	Thr 4135	Ile	Met	Xaa	Xaa	Xaa 4140	Pro	Leu	Leu
Xaa	Pro 4145	Phe	Thr	Leu	Asn	Phe 4150	Thr	Ile	Thr	Asn	Leu 4155	Xaa	Tyr	Glu
Glu	Xaa 4160	Met	Xaa	Xaa	Pro	Gly 4165	Ser	Arg	Lys	Phe	Asn 4170	Thr	Thr	Glu
Arg	Val 4175	Leu	Gln	Gly	Leu	Leu 4180	Arg	Pro	Leu	Phe	Lys 4185	Asn	Thr	Ser
Val	Ser 4190	Ser	Leu	Tyr	Ser	Gly 4195	Cys	Arg	Leu	Thr	Leu 4200	Leu	Arg	Pro
Glu	Lys 4205	Asp	Gly	Ala	Ala	Thr 4210	Arg	Val	Asp	Ala	Ala 4215	Cys	Thr	Tyr
Arg	Pro 4220	Asp	Pro	Lys	Ser	Pro 4225	Gly	Leu	Asp	Arg	Glu 4230	Gln	Leu	Tyr
Trp	Glu 4235	Leu	Ser	Gln	Leu	Thr 4240	His	Ser	Ile	Thr	Glu 4245	Leu	Gly	Pro
Tyr	Thr 4250	Leu	Asp	Arg	Val	Ser 4255	Leu	Tyr	Val	Asn	Gly 4260	Phe	Asn	Pro
Arg	Ser 4265	Ser	Val	Pro	Thr	Thr 4270	Ser	Thr	Pro	Gly	Thr 4275	Ser	Thr	Val
His	Leu 4280	Ala	Thr	Ser	Gly	Thr 4285	Pro	Ser	Ser	Leu	Pro 4290	Gly	His	Thr
Xaa	Xaa 4295	Xaa	Pro	Leu	Leu	Xaa 4300		Phe	Thr	Leu	Asn 4305	Phe	Thr	Ile

Thr	Asn 4310	Leu	Xaa	Tyr	Glu	Glu 4315	Xaa	Met	Xaa	Xaa	Pro 4320	Gly	Ser	Arg
Lys	Phe 4325	Asn	Thr	Thr	Glu	Arg 4330	Val	Leu	Gln	Gly	Leu 4335	Leu	Lys	Pro
Leu	Phe 4340	Arg	Asn	Ser	Ser	Leu 4345	Glu	Tyr	Leu	Tyr	Ser 4350	Gly	Cys	Arg
Leu	Ala 4355	Ser	Leu	Arg	Pro	Glu 4360	Lys	Asp	Ser	Ser	Ala 4365	Met	Ala	Val
Asp	Ala 4370	Ile	Cys	Thr	His	Arg 4375	Pro	Asp	Pro	Glu	Asp 4380	Leu	Gly	Leu
Asp	Arg 4385	Glu	Arg	Leu	Tyr	Trp 4390	Glu	Leu	Ser	Asn	Leu 4395	Thr	Asn	Gly
Ile	Gln 4400	Glu	Leu	Gly	Pro	Tyr 4405		Leu	Asp	Arg	Asn 4410	Ser	Leu	Tyr
Val	Asn 4415	Gly	Phe	Thr	His	Arg 4420		Ser	Phe	Leu	Thr 4425	Thr	Ser	Thr
Pro	Trp 4430	Thr	Ser	Thr	Val	Asp 4435	Leu	Gly	Thr	Ser	Gly 4440	Thr	Pro	Ser
Pro	Val 4445	Pro	Ser	Pro	Thr	Thr 4450	Ala	Gly	Pro	Leu	Leu 4455	Val	Pro	Phe
Thr	Leu 4460	Asn	Phe	Thr	Ile	Thr 4465	Asn	Leu	Gln	Tyr	Glu 4470	Glu	Asp	Met
His	Arg 4475	Pro	Gly	Ser	Arg	Arg 4480	Phe	Asn	Thr	Thr	Glu 4485	Arg	Val	Leu
Gln	Gly 4490	Leu	Leu	Thr	Pro	Leu 4495	Phe	Lys	Asn	Thr	Ser 4500	Val	Gly	Pro
Leu	Tyr 4505	Ser	Gly	Cys	Arg	Leu 4510	Thr	Leu	Leu	Arg	Pro 4515	Glu	Lys	Gln
Glu	Ala 4520	Ala	Thr	Gly	Val	Asp 4525	Thr	Ile	Cys	Thr	His 4530	Arg	Val	Asp
Pro	Ile 4535	Gly	Pro	Gly	Leu	Asp 4540	Arg	Glu	Arg	Leu	Tyr 4545	Trp	Glu	Leu
Ser	Gln 4550	Leu	Thr	Asn	Ser	Ile 4555		Glu	Leu	Gly	Pro 4560	Tyr	Thr	Leu
Asp	Arg 4565	Asp	Ser	Leu	Tyr	Val 4570	Asn	Gly	Phe	Asn	Pro 4575	Trp	Ser	Ser
Val	Pro 4580	Thr	Thr	Ser	Thr	Pro 4585	Gly	Thr	Ser	Thr	Val 4590	His	Leu	Ala
Thr	Ser 4595		Thr	Pro	Ser	Ser 4600	Leu	Pro	Gly	His	Thr 4605	Ala	Pro	Val

Pro	Leu 4610	Leu	Ile	Pro	Phe	Thr 4615	Leu	Asn	Phe	Thr	Ile 4620	Thr	Asp	Leu
His	Tyr 4625	Glu	Glu	Asn	Met	Gln 4630	His	Pro	Gly	Ser	Arg 4635	Lys	Phe	Asn
Thr	Thr 4640	Glu	Arg	Val	Leu	Gln 4645	Gly	Leu	Leu	Lys	Pro 4650	Leu	Phe	Lys
Ser	Thr 4655	Ser	Val	Gly	Pro	Leu 4660	Tyr	Ser	Gly	Cys	Arg 4665	Leu	Thr	Leu
Leu	Arg 4670	Pro	Glu	Lys	His	Gly 4675	Ala	Ala	Thr	Gly	Val 4680		Ala	Ile
Cys	Thr 4685	Leu	Arg	Leu	Asp	Pro 4690		Gly	Pro	Gly	Leu 4695	Asp	Arg	Glu
Arg	Leu 4700	Tyr	Trp	Glu	Leu	Ser 4705	Gln	Leu	Thr	Asn	Ser 4710		Thr	Glu
Leu	Gly 4715	Pro	Tyr	Thr	Leu	Asp 4720	Arg	Asp	Ser	Leu	Tyr 4725	Val	Asn	Gly
Phe	Thr 4730	His	Arg	Ser	Ser	Val 4735	Pro	Thr	Thr	Ser	Ile 4740	Pro	Gly	Thr
Ser	Ala 4745	Val	His	Leu	Glu	Thr 4750	Ser	Gly	Thr	Pro	Ala 4755	Ser	Leu	Pro
Gly	His 4760	Thr	Ala	Pro	Gly	Pro 4765	Leu	Leu	Val	Pro	Phe 4770	Thr	Leu	Asn
Phe	Thr 4775	Ile	Thr	Asn	Leu	Gln 4780		Glu	Glu	Asp	Met 4785	Arg	His	Pro
Gly	Ser 4790	Arg	Lys	Phe	Ser	Thr 4795		Glu	Arg	Val	Leu 4800	Gln	Gly	Leu
Leu	Lys 4805	Pro	Leu	Phe	Lys	Asn 4810	Thr	Ser	Val	Ser	Ser 4815	Leu	Tyr	Ser
Gly	Cys 4820	Arg	Leu	Thr	Leu	Leu 4825	Arg	Pro	Glu	Lys	Asp 4830	Gly	Ala	Ala
Thr	Arg 4835	Val	Asp	Ala	Val	Cys 4840	Thr	His	Arg	Pro	Asp 4845	Pro	Lys	Ser
Pro	Gly 4850	Leu	Asp	Arg	Glu	Arg 4855		Tyr	Trp	Lys	Leu 4860	Ser	Gln	Leu
Thr	His 4865	Gly	Ile	Thr	Glu	Leu 4870		Pro	Tyr	Thr	Leu 4875	Asp	Arg	His
Ser	Leu 4880	Tyr	Val	Asn	Gly	Phe 4885		His	Gln	Ser	Ser 4890		Thr	Thr

Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg

	4895					4900					4905			
Thr	Pro 4910	Ala	Ser	Leu	Ser	Gly 4915	Pro	Thr	Thr	Ala	Ser 4920	Pro	Leu	Leu
Val	Leu 4925	Phe	Thr	Ile	Asn	Phe 4930	Thr	Ile	Thr	Asn	Gln 4935	Arg	Tyr	Glu
Glu	Asn 4940	Met	His	His	Pro	Gly 4945	Ser	Arg	Lys	Phe	Asn 4950	Thr	Thr	Glu
Arg	Val 4955	Leu	Gln	Gly	Leu	Leu 4960	Arg	Pro	Val	Phe	Lys 4965	Asn	Thr	Ser
Val	Gly 4970	Pro	Leu	Tyr	Ser	Gly 4975	Cys	Arg	Leu	Thr	Leu 4980	Leu	Arg	Pro
Lys	Lys 4985	Asp	Gly	Ala	Ala	Thr 4990	Lys	Val	Asp	Ala	Ile 4995	Cys	Thr	Tyr
Arg	Pro 5000	Asp	Pro	Lys	Ser	Pro 5005	Gly	Leu	Asp	Arg	Glu 5010	GIn	Leu	Tyr
Trp	Glu 5015	Leu	Ser	Gln	Leu	Thr 5020	His	Ser	Ile	Thr	Glu 5025	Leu	Gly	Pro
Tyr	Thr 5030	Gln	Asp	Arg	Asp	Ser 5035	Leu	Tyr	Val	Asn	Gly 5040	Phe	Thr	His
Arg	Ser 5045	Ser	Va1	Pro	Thr	Thr 5050	Ser	Ile	Pro	Gly	Thr 5055	Ser	Ala	Val
His	Leu 5060	G1u	Thr	Ser	Gly	Thr 5065	Pro	Ala	Ser	Leu	Pro 5070	Gly	His	Thr
Ala	Pro 5075	Gly	Pro	Leu	Leu	Val 5080	Pro	Phe	Thr	Leu	Asn 5085	Phe	Thr	Ile
Thr	Asn 5090	Leu	Gln	Tyr	Glu	Glu 5095	Asp	Met	Arg	His	Pro 5100	Gly	Ser	Arg
Lys	Phe 5105	Asn	Thr	Thr	Glu	Arg 5110	Val	Leu	Gln	Gly	Leu 5115	Leu	Lys	Pro
Leu	Phe 5120	Lys	Ser	Thr	Ser	Val 5125	Gly	Pro	Leu	Tyr	Ser 5130	Gly	Cys	Arg
Leu	Thr 5135	Leu	Leu	Arg	Pro	Glu 5140	Lys	Arg	Gly	Ala	Ala 5145	Thr	Gly	Val
Asp	Thr 5150		Cys	Thr	His	Arg 5155	Leu	Asp	Pro	Leu	Asn 5160	Pro	Gly	Leu
Asp	Arg 5165		Gln	Leu	Tyr	Trp 5170		Leu	Ser	Lys	Leu 5175	Thr	Arg	Gly
Ile	Ile 5180	Glu	Leu	Gly	Pro	Tyr 5185	Leu	Leu	Asp	Arg	Gly 5190	Ser	Leu	Tyr

Val	Asn 5195	Gly	Phe	Thr	His	Arg 5200	Thr	Ser	Val	Pro	Thr 5205	Thr	Ser	Thr
Pro	Gly 5210	Thr	Ser	Thr	Val	Asp 5215	Leu	Gly	Thr	Ser	Gly 5220	Thr	Pro	Phe
Ser	Leu 5225	Pro	Ser	Pro	Ala	Xaa 5230	Xaa	Xaa	Pro	Leu	Leu 5235	Xaa	Pro	Phe
Thr	Leu 5240	Asn	Phe	Thr	Ile	Thr 5245	Asn	Leu	Xaa	Tyr	Glu 5250	Glu	Xaa	Met
Xaa	Xaa 5255	Pro	Gly	Ser	Arg	Lys 5260	Phe	Asn	Thr	Thr	Glu 5265	Arg	Val	Leu
Gln	Thr 5270	Leu	Leu	Gly	Pro	Met 5275	Phe	Lys	Asn	Thr	Ser 5280	Val	Gly	Leu
Leu	Tyr 5285	Ser	Gly	Cys	Arg	Leu 5290	Thr	Leu	Leu	Arg	Ser 5295	Glu	Lys	Asp
Gly	Ala 5300	Ala	Thr	Gly	Val	Asp 5305	Ala	Ile	Cys	Thr	His 5310	Arg	Leu	Asp
Pro	Lys 5315	Ser	Pro	Gly	Val	Asp 5320	Arg	Glu	Gln	Leu	Tyr 5325	Trp	Glu	Leu
Ser	Gln 5330	Leu	Thr	Asn	Gly	Ile 5335	Lys	Glu	Leu	Gly	Pro 5340		Thr	Leu
Asp	Arg 5345	Asn	Ser	Leu	Tyr	Val 5350		Gly	Phe	Thr	His 5355	Trp	Ile	Pro
Val	Pro 5360	Thr	Ser	Ser	Thr	Pro 5365	Gly	Thr	Ser	Thr	Val 5370	Asp	Leu	Gly
Ser	Gly 5375	Thr	Pro	Ser	Leu	Pro 5380		Ser	Pro	Thr	Thr 5385	Ala	Gly	Pro
Leu	Leu 5390	Val	Pro	Phe	Thr	Leu 5395	Asn	Phe	Thr	Ile	Thr 5400	Asn	Leu	Lys
Tyr	Glu 5405	Glu	Asp	Met	His	Cys 5410	Pro	Gly	Ser	Arg	Lys 5415	Phe	Asn	Thr
Thr	Glu 5420	Arg	Val	Leu	Gln	Ser 5425		Leu	Gly	Pro	Met 5430		Lys	Asn
Thr	Ser 5435	Val	Gly	Pro	Leu	Tyr 5440		Gly	Cys	Arg	Leu 5445	Thr	Leu	Leu
Arg	Ser 5450	Glu	Lys	Asp	Gly	Ala 5455	Ala	Thr	Gly	Val	Asp 5460	Ala	Ile	Cys
Thr	His 5465	Arg	Leu	Asp	Pro	Lys 5470		Pro	Gly	Val	Asp 5475	Arg	Glu	Gln
Leu	Tyr 5480		Glu	Leu	Ser	Gln 5485		Thr	Asn	Gly	Ile 5490		Glu	Leu

Gly	Pro 5495	Tyr	Thr	Leu	Asp	Arg 5500	Asn	Ser	Leu	Tyr	Val 5505	Asn	Gly	Phe
Thr	His 5510	Gln	Thr	Ser	Ala	Pro 5515	Asn	Thr	Ser	Thr	Pro 5520	Gly	Thr	Ser
Thr	Val 5525	Asp	Leu	Gly	Thr	Ser 5530	Gly	Thr	Pro	Ser	Ser 5535	Leu	Pro	Ser
Pro	Thr 5540	Xaa	Xaa	Xaa	Pro	Leu 5545	Leu	Xaa	Pro	Phe	Thr 5550	Leu	Asn	Phe
Thr	Ile 5555	Thr	Asn	Leu	Xaa	Tyr 5560	Glu	Glu	Xaa	Met	Xaa 5565	Xaa	Pro	Gly
Ser	Arg 5570	Lys	Phe	Asn	Thr	Thr 5575	Glu	Arg	Val	Leu	Gln 5580	Gly	Leu	Leu
Xaa	Pro 5585	Xaa	Phe	Lys	Xaa	Thr 5590	Ser	Val	Gly	Xaa	Leu 5595	Tyr	Ser	Gly
Cys	Arg 5600	Leu	Thr	Leu	Leu	Arg 5605	Xaa	Glu	Lys	Xaa	Xaa 5610		Ala	Thr
Xaa	Val 5615	Asp	Xaa	Xaa	Cys	Xaa 5620		Xaa	Xaa	Asp	Pro 5625	Xaa	Xaa	Pro
G1y	Leu 5630		Arg	Glu	Xaa	Leu 5635	Tyr	Trp	Glu	Leu	Ser 5640	Xaa	Leu	Thr
Xaa	Xaa 5645	Ile	Xaa	Glu	Leu	Gly 5650	Pro	Tyr	Xaa	Leu	Asp 5655	Arg	Xaa	Ser
Leu	Tyr 5660	Val	Asn	Gly	Phe	Thr 5665	His	Trp	Ile	Pro	Val 5670	Pro	Thr	Ser
Ser	Thr 5675	Pro	Gly	Thr	Ser	Thr 5680	Val	Asp	Leu	Gly	Ser 5685	Gly	Thr	Pro
Ser	Ser 5690	Leu	Pro	Ser	Pro	Thr 5695	Thr	Ala	Gly	Pro	Leu 5700	Leu	Val	Pro
Phe	Thr 5705		Asn	Phe	Thr	Ile 5710		Asn	Leu	Lys	Tyr 5715	Glu	Glu	Asp
Met	His 5720		Pro	Gly	Ser	Arg 5725	Lys	Phe	Asn	Thr	Thr 5730	Glu	Arg	Val
Leu	Gln 5735		Leu	Leu	Gly	Pro 5740	Met	Phe	Lys	Asn	Thr 5745	Ser	Val	Gly
Pro	Leu 5750		Ser	Gly	Cys	Arg 5755		Thr	Ser	Leu	Arg 5760	Ser	Glu	Lys
Asp	Gly 5765		Ala	Thr	Gly	Val 5770		Ala	Ile	Cys	Thr 5775	His	Arg	Val

Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu

	5780					5785					5790			
Leu	Ser 5795	Gln	Leu	Thr	Asn	Gly 5800	Ile	Lys	Glu	Leu	Gly 5805	Pro	Tyr	Thr
Leu	Asp 5810	Arg	Asn	Ser	Leu	Tyr 5815	Val	Asn	Gly	Phe	Thr 5820	His	Gln	Thr
Ser	Ala 5825	Pro	Asn	Thr	Ser	Thr 5830	Pro	Gly	Thr	Ser	Thr 5835	Val	Asp	Leu
Gly	Thr 5840	Ser	Gly	Thr	Pro	Ser 58 <b>4</b> 5	Ser	Leu	Pro	Ser	Pro 5850	Thr	Ser	Ala
Gly	Pro 5855	Leu	Leu	Val	Pro	Phe 5860	Thr	Leu	Asn	Phe	Thr 5865	Ile	Thr	Asn
Leu	Gln 5870	Tyr	Glu	Glu	Asp	Met 5875	His	His	Pro	Gly	Ser 5880	Arg	Lys	Phe
Asn	Thr 5885	Thr	Glu	Arg	Val	Leu 5890	Gln	Gly	Leu	Leu	Gly 5895	Pro	Met	Phe
Lys	Asn 5900	Thr	Ser	Val	Gly	Leu 5905	Leu	Tyr	Ser	Gly	Cys 5910	Arg	Leu	Thr
Leu	Leu 5915	Arg	Pro	Glu	Lys	Asn 5920	Gly	Ala	Ala	Thr	Gly 5925	Met	Asp	Ala
Ile	Cys 5930		His	Arg	Leu	Asp 5935	Pro	Lys	Ser	Pro	Gly 5940	Leu	Asp	Arg
Glu	Xaa 5945	Leu	Tyr	Trp	Glu	Leu 5950	Ser	Xaa	Leu	Thr	Xaa 5955	Xaa	Ile	Xaa
Glu	Leu 5960	Gly	Pro	Tyr	Xaa	Leu 5965	Asp	Arg	Xaa	Ser	Leu 5970	Tyr	Val	Asn
Gly	Phe 5975		Xaa	Xaa	Xaa	Xaa 5980	Xaa	Xaa	Xaa	Thr	Ser 5985	Thr	Pro	Gly
Thr	Ser 5990		Val	Xaa	Leu	Xaa 5995	Thr	Ser	Gly	Thr	Pro 6000	Xaa	Xaa	Xaa
Pro	Xaa 6005		Thr	Xaa	Xaa	Xaa 6010	Pro	Leu	Leu	Xaa	Pro 6015	Phe	Thr	Leu
Asn	Phe 6020		Ile	Thr	Asn	Leu 6025	Xaa	Tyr	Glu	Glu	Xaa 6030	Met	Xaa	Xaa
Pro	Gly 6035		Arg	Lys	Phe	Asn 6040		Thr	Glu	Arg	Val 6045	Leu	Gln	Gly
Leu	Leu 6050		Pro	Leu	Phe	Arg 6055	Asn	Ser	Ser	Leu	Glu 6060	Tyr	Leu	Tyr
Ser	Gly 6065		Arg	Leu	Ala	Ser 6070		Arg	Pro	Glu	Lys 6075	Asp	Ser	Ser

Ala	Met 6080	Ala	Val	Asp	Ala	Ile 6085	Cys	Thr	His	Arg	Pro 6090	Asp	Pro	Glu
Asp	Leu 6095	Gly	Leu	Asp	Arg	Glu 6100	Arg	Leu	Tyr	Trp	Glu 6105	Leu	Ser	Asn
Leu	Thr 6110	Asn	Gly	Ile	Gln	Glu 6115	Leu	Gly	Pro	Tyr	Thr 6120	Leu	Asp	Arg
Asn	Ser 6125	Leu	Tyr	Val	Asn	Gly 6130	Phe	Thr	His	Arg	Ser 6135	Ser	Met	Pro
Thr	Thr 6140	Ser	Thr	Pro	Gly	Thr 6145	Ser	Thr	Val	Asp	Val 6150	Gly	Thr	Ser
Gly	Thr 6155	Pro	Ser	Ser	Ser	Pro 6160	Ser	Pro	Thr	Thr	Ala 6165	Gly	Pro	Leu
Leu	Ile 6170	Pro	Phe	Thr	Leu	Asn 6175	Phe	Thr	Ile	Thr	Asn 6180	Leu	Gln	Tyr
Gly	Glu 6185	Asp	Met	Gly	His	Pro 6190	Gly	Ser	Arg	Lys	Phe 6195	Asn	Thr	Thr
Glu	Arg 6200	Val	Leu	Gln	Gly	Leu 6205	Leu	Gly	Pro	Ile	Phe 6210	Lys	Asn	Thr
Ser	Val 6215	Gly	Pro	Leu	Tyr	Ser 6220		Cys	Arg	Leu	Thr 6225	Ser	Leu	Arg
Ser	Glu 6230	Lys	Asp	Gly	Ala	Ala 6235	Thr	Gly	Val	Asp	Ala 6240	Ile	Cys	Ile
His	His 6245	Leu	Asp	Pro	Lys	Ser 6250	Pro	Gly	Leu	Asn	Arg 6255	Glu	Arg	Leu
Tyr	Trp 6260	Glu	Leu	Ser	Gln	Leu 6265	Thr	Asn	Gly	Ile	Lys 6270	Glu	Leu	Gly
Pro	Tyr 6275	Thr	Leu	Asp	Arg	Asn 6280	Ser	Leu	Tyr	Val	Asn 6285	Gly	Phe	Thr
His	Arg 6290	Thr	Ser	Val	Pro	Thr 6295	Thr	Ser	Thr	Pro	Gly 6300	Thr	Ser	Thr
Val	Asp 6305	Leu	Gly	Thr	Ser	Gly 6310		Pro	Phe	Ser	Leu 6315	Pro	Ser	Pro
Ala	Thr 6320	Ala	Gly	Pro	Leu	Leu 6325	Val	Leu	Phe	Thr	Leu 6330	Asn	Phe	Thr
Ile	Thr 6335	Asn	Leu	Lys	Tyr	Glu 6340	Glu	Asp	Met	His	Arg 6345	Pro	Gly	Ser
Arg	Lys 6350	Phe	Asn	Thr	Thr	Glu 6355	Arg	Val	Leu	Gln	Thr 6360	Leu	Leu	Gly
Pro	Met 6365	Phe	Lys	Asn	Thr	Ser 6370		Gly	Leu	Leu	Tyr 6375	Ser	Gly	Cys

Arg	Leu 6380	Thr	Leu	Leu	Arg	Ser 6385	Glu	Lys	Asp	Gly	Ala 6390	Ala	Thr	Gly
Val	Asp 6395	Ala	Ile	Cys	Thr	His 6400	Arg	Leu	Asp	Pro	Lys 6405	Ser	Pro	Gly
Leu	Asp 6410	Arg	Glu	Xaa	Leu	Tyr 6415	Trp	Glu	Leu	Ser	Xaa 6420	Leu	Thr	Xaa
Xaa	Ile 6425	Xaa	Glu	Leu	Gly	Pro 6430	Tyr	Xaa	Leu	Asp	Arg 6435	Xaa	Ser	Leu
Tyr	Val 6440	Asn	Gly	Phe	Xaa	Xaa 6445	Xaa	Xaa	Xaa	Xaa	Xaa 6450	Xaa	Thr	Ser
Thr	Pro 6455	Gly	Thr	Ser	Xaa	Val 6460	Xaa	Leu	Xaa	Thr	Ser 6465	Gly	Thr	Pro
Xaa	Xaa 6470	Xaa	Pro	Xaa	Xaa	Thr 6475	Xaa	Xaa	Xaa	Pro	Leu 6480	Leu	Xaa	Pro
Phe	Thr 6485	Leu	Asn	Phe	Thr	Ile 6490	Thr	Asn	Leu	Xaa	Tyr 6495	Glu	Glu	Xaa
Met	Xaa 6500	Xaa	Pro	Gly	Ser	Arg 6505	Lys	Phe	Asn	Thr	Thr 6510	Glu	Arg	Val
Leu	Gln 6515	Gly	Leu	Leu	Arg	Pro 6520	Val	Phe	Lys	Asn	Thr 6525	Ser	Val	Gly
Pro	Leu 6530	Tyr	Ser	Gly	Cys	Arg 6535	Leu	Thr	Leu	Leu	Arg 6540	Pro	Lys	Lys
Asp	Gly 6545	Ala	Ala	Thr	Lys	Val 6550	Asp	Ala	Ile	Cys	Thr 6555	Tyr	Arg	Pro
Asp	Pro 6560	Lys	Ser	Pro	Gly	Leu 6565	Asp	Arg	Glu	Gln	Leu 6570	Tyr	Trp	Glu
Leu	Ser 6575	Gln	Leu	Thr	His	Ser 6580	Ile	Thr	Glu	Leu	Gly 6585	Pro	Tyr	Thr
Gln	Asp 6590		Asp	Ser	Leu	Tyr 6595	Val	Asn	Gly	Phe	Thr 6600	His	Arg	Ser
Ser	Val 6605	Pro	Thr	Thr	Ser	Ile 6610	Pro	Gly	Thr	Ser	Ala 6615	Val	His	Leu
Glu	Thr 6620	Thr	Gly	Thr	Pro	Ser 6625	Ser	Phe	Pro	Gly	His 6630	Thr	Glu	Pro
Gly	Pro 6635	Leu	Leu	Ile	Pro	Phe 6640	Thr	Phe	Asn	Phe	Thr 6645	Ile	Thr	Asn
Leu	Arg 6650		Glu	Glu	Asn	Met 6655		His	Pro	Gly	Ser 6660	Arg	Lys	Phe
Asn	Thr	Thr	Glu	Arg	Val	Leu	Gln	Gly	Leu	Leu	Thr	Pro	Leu	Phe

	6665					6670					6675			
Lys	Asn 6680	Thr	Ser	Val	Gly	Pro 6685	Leu	Tyr	Ser	Gly	Cys 6690	Arg	Leu	Thr
Leu	Leu 6695	Arg	Pro	Glu	Lys	Gln 6700	Glu	Ala	Ala	Thr	Gly 6705	Val	Asp	Thr
Ile	Cys 6710	Thr	His	Arg	Val	Asp 6715	Pro	Ile	Gly	Pro	Gly 6720	Leu	Asp	Arg
Glu	Arg 6725	Leu	Tyr	Trp	Glu	Leu 6730	Ser	Gln	Leu	Thr	Asn 6735	Ser	Ile	Thr
Glu	Leu 6740	Gly	Pro	Tyr	Thr	Leu 6745	Asp	Arg	Asp	Ser	Leu 6750	Tyr	Val	Asp
Gly	Phe 6755	Asn	Pro	Trp	Ser	Ser 6760	Val	Pro	Thr	Thr	Ser 6765	Thr	Pro	Gly
Thr	Ser 6770	Thr	Val	His	Leu	Ala 6775	Thr	Ser	Gly	Thr	Pro 6780	Ser	Pro	Leu
Pro	Gly 6785	His	Thr	Ala	Pro	Val 6790	Pro	Leu	Leu	Ile	Pro 6795	Phe	Thr	Leu
Asn	Phe 6800	Thr	Ile	Thr	Asp	Leu 6805	His	Tyr	Glu	Glu	Asn 6810	Met	Gln	His
Pro	Gly 6815	Ser	Arg	Lys	Phe	Asn 6820	Thr	Thr	Glu	Arg	Val 6825	Leu	Gln	Gly
Leu	Leu 6830	Lys	Pro	Leu	Phe	Lys 6835	Ser	Thr	Ser	Val	Gly 6840	Pro	Leu	Tyr
Ser	Gly 6845	Cys	Arg	Leu	Thr	Leu 6850	Leu	Arg	Pro	Glu	Lys 6855	His	Gly	Ala
Ala	Thr 6860	Gly	Val	Asp	Ala	Ile 6865	Cys	Thr	Leu	Arg	Leu 6870	Asp	Pro	Thr
Gly	Pro 6875	Gly	Leu	Asp	Arg	Glu 6880	Arg	Leu	Tyr	Trp	Glu 6885	Leu	Ser	Gln
Leu	Thr 6890	Asn	Ser	Ile	Thr	Glu 6895	Leu	Gly	Pro	Tyr	Thr 6900	Leu	Asp	Arg
Asp	Ser 6905	Leu	Tyr	Val	Asn	Gly 6910	Phe	Asn	Pro	Trp	Ser 6915	Ser	Val	Pro
Thr	Thr 6920	Ser	Thr	Pro	Gly	Thr 6925	Ser	Thr	Val	His	Leu 6930	Ala	Thr	Ser
Gly	Thr 6935	Pro	Ser	Ser	Leu	Pro 6940	Gly	His	Thr	Thr	Ala 6945	Gly	Pro	Leu
Leu	Val 6950		Phe	Thr	Leu	Asn 6955	Phe	Thr	Ile	Thr	Asn 6960	Leu	Lys	Tyr

Glu	Glu 6965	Asp	Met	His	Cys	Pro 6970	Gly	Ser	Arg	Lys	Phe 6975	Asn	Thr	Thr
Glu	Arg 6980	Val	Leu	Gln	Ser	Leu 6985	His	Gly	Pro	Met	Phe 6990	Lys	Asn	Thr
Ser	Val 6995	Gly	Pro	Leu	Tyr	Ser 7000	Gly	Cys	Arg	Leu	Thr 7005	Leu	Leu	Arg
Ser	Glu 7010	Lys	Asp	Gly	Ala	Ala 7015	Thr	Gly	Val	Asp	Ala 7020	Ile	Cys	Thr
His	Arg 7025	Leu	Asp	Pro	Lys	Ser 7030	Pro	Gly	Leu	Asp	Arg 7035	Glu	Xaa	Leu
Tyr	Trp 7040	Glu	Leu	Ser	Xaa	Leu 7045	Thr	Xaa	Xaa	Ile	Xaa 7050	Glu	Leu	Gly
Pro	Tyr 7055	Xaa	Leu	Asp	Arg	Xaa 7060	Ser	Leu	Tyr	Va1	Asn 7065	Gly	Phe	Xaa
Xaa	Xaa 7070	Xaa	Xaa	Xaa	Xaa	Xaa 7075	Thr	Ser	Thr	Pro	Gly 7080	Thr	Ser	Xaa
Val	Xaa 7085	Leu	Xaa	Thr	Ser	Gly 7090	Thr	Pro	Xaa	Xaa	Xaa 7095	Pro	Xaa	Xaa
Thr	Xaa 7100	Xaa	Xaa	Pro	Leu	Leu 7105	Xaa	Pro	Phe	Thr	Leu 7110	Asn	Phe	Thr
Ile	Thr 7115	Asn	Leu	Xaa	Tyr	Glu 7120	Glu	Xaa	Met	Xaa	Xaa 7125	Pro	Gly	Ser
Arg	Lys 7130	Phe	Asn	Thr	Thr	Glu 7135	Arg	Val	Leu	Gln	Gly 7140	Leu	Leu	Xaa
Pro	Xaa 7145	Phe	Lys	Xaa	Thr	Ser 7150	Val	Gly	Xaa	Leu	Tyr 7155	Ser	Gly	Cys
Arg	Leu 7160	Thr	Leu	Leu	Arg	Xaa 7165	Glu	Lys	Xaa	Xaa	Ala 7170	Ala	Thr	Xaa
Val	Asp 7175	Xaa	Xaa	Cys	Xaa	Xaa 7180	Xaa	Xaa	Asp	Pro	Xaa 7185	Xaa	Pro	Gly
Leu	Asp 7190	Arg	Glu	Xaa	Leu	Tyr 7195		Glu	Leu	Ser	Xaa 7200	Leu	Thr	Asn
Ser	Ile 7205	Thr	Glu	Leu	Gly	Pro 7210		Thr	Leu	Asp	Arg 7215	Asp	Ser	Leu
Tyr	Val 7220	Asn	Gly	Phe	Thr	His 7225	Arg	Ser	Ser	Met	Pro 7230	Thr	Thr	Ser
Ile	Pro 7235	Gly	Thr	Ser	Ala	Val 7240	His	Leu	Glu	Thr	Ser 7245	Gly	Thr	Pro
Ala	Ser 7250	Leu	Pro	Gly	His	Thr 7255		Pro	Gly	Pro	Leu 7260	Leu	Val	Pro

Phe	Thr 7265	Leu	Asn	Phe	Thr	Ile 7270	Thr	Asn	Leu	Gln	Tyr 7275	Glu	Glu	Asp
Met	Arg 7280	His	Pro	Gly	Ser	Arg 7285	Lys	Phe	Asn	Thr	Thr 7290	Glu	Arg	Val
Leu	Gln 7295	Gly	Leu	Leu	Lys	Pro 7300	Leu	Phe	Lys	Ser	Thr 7305	Ser	Val	Gly
Pro	Leu 7310	Tyr	Ser	Gly	Cys	Arg 7315	Leu	Thr	Leu	Leu	Arg 7320	Pro	Glu	Lys
Arg	Gly 7325	Ala	Ala	Thr	Gly	Val 7330	Asp	Thr	Ile	Cys	Thr 7335	His	Arg	Leu
Asp	Pro 7340	Leu	Asn	Pro	Gly	Leu 7345	Asp	Arg	Glu	Xaa	Leu 7350	Tyr	Trp	Glu
Leu	Ser 7355	Xaa	Leu	Thr	Xaa	Xaa 7360	Ile	Xaa	Glu	Leu	Gly 7365	Pro	Tyr	Xaa
Leu	Asp 7370	Arg	Xaa	Ser	Leu	Tyr 7375		Asn	Gly	Phe	Xaa 7380	Xaa	Xaa	Xaa
Xaa	Xaa 7385	Xaa	Xaa	Thr	Ser	Thr 7390	Pro	Gly	Thr	Ser	Xaa 7395	Val	Xaa	Leu
Xaa	Thr 7400	Ser	Gly	Thr	Pro	Xaa 7405	Xaa	Xaa	Pro	Xaa	Xaa 7410	Thr	Xaa	Xaa
Xaa	Pro 7415	Leu	Leu	Xaa	Pro	Phe 7420		Leu	Asn	Phe	Thr 7425	Ile	Thr	Asn
Leu	Xaa 7430		Glu	Glu	Xaa	Met 7435	Xaa	Xaa	Pro	Gly	Ser 7440	Arg	Lys	Phe
Asn	Thr 7445	Thr	Glu	Arg	Val	Leu 7450	Gln	Gly	Leu	Leu	Xaa 7455	Pro	Xaa	Phe
Lys	Xaa 7460	Thr	Ser	Val	Gly	Xaa 7465	Leu	Tyr	Ser	Gly	Cys 7470	Arg	Leu	Thr
Leu	Leu 7475	Arg	Xaa	Glu	Lys	Xaa 7480	Xaa	Ala	Ala	Thr	Xaa 7485	Val	Asp	Xaa
Xaa	Cys 7490	Xaa	Xaa	Xaa	Xaa	Asp 7495	Pro	Xaa	Xaa	Pro	Gly 7500	Leu	Asp	Arg
Glu	Xaa 7505	Leu	Tyr	Trp	Glu	Leu 7510	Ser	Xaa	Leu	Thr	Xaa 7515	Xaa	Ile	Xaa
Glu	Leu 7520	Gly	Pro	Tyr	Xaa	Leu 7525	Asp	Arg	Xaa	Ser	Leu 7530	Tyr	Val	Asn
Gly	Phe 7535	His	Pro	Arg	Ser	Ser 7540	Val	Pro	Thr	Thr	Ser 7545	Thr	Pro	Gly
Thr	Ser	Thr	Val	His	Leu	Ala	Thr	Ser	Gly	Thr	Pro	Ser	Ser	Leu

	7550					7555					7560			
Pro	Gly 7565	His	Thr	Ala	Pro	Val 7570	Pro	Leu	Leu	Ile	Pro 7575	Phe	Thr	Leu
Asn	Phe 7580	Thr	Ile	Thr	Asn	Leu 7585	His	Tyr	Glu	Glu	Asn 7590	Met	Gln	His
Pro	Gly 7595	Ser	Arg	Lys	Phe	Asn 7600	Thr	Thr	Glu	Arg	Val 7605	Leu	Gln	Gly
Leu	Leu 7610	Gly	Pro	Met	Phe	Lys 7615	Asn	Thr	Ser	Val	Gly 7620	Leu	Leu	Tyr
Ser	Gly 7625	Cys	Arg	Leu	Thr	Leu 7630	Leu	Arg	Pro	Glu	Lys 7635	Asn	Gly	Ala
Ala	Thr 7640	Gly	Met	Asp	Ala	Ile 7645	Cys	Ser	His	Arg	Leu 7650	Asp	Pro	Lys
Ser	Pro 7655	Gly	Leu	Asp	Arg	Glu 7660	Xaa	Leu	Tyr	Trp	Glu 7665	Leu	Ser	Xaa
Leu	Thr 7670	Xaa	Xaa	Ile	Xaa	Glu 7675	Leu	Gly	Pro	Tyr	Xaa 7680	Leu	Asp	Arg
Xaa	Ser 7685	Leu	Tyr	Val	Asn	Gly 7690	Phe	Xaa	Xaa	Xaa	Xaa 7695	Xaa	Xaa	Xaa
Xaa	Thr 7700	Ser	Thr	Pro	Gly	Thr 7705	Ser	Xaa	Val	Xaa	Leu 7710	Xaa	Thr	Ser
Gly	Thr 7715	Pro	Xaa	Xaa	Xaa	Pro 7720	Xaa	Xaa	Thr	Xaa	Xaa 7725	Xaa	Pro	Leu
Leu	Xaa 7730	Pro	Phe	Thr	Leu	Asn 7735	Phe	Thr	Ile	Thr	Asn 7740	Leu	Xaa	Tyr
Glu	Glu 7745	Xaa	Met	Xaa	Xaa	Pro 7750	Gly	Ser	Arg	Lys	Phe 7755	Asn	Thr	Thr
Glu	Arg 7760	Val	Leu	Gln	Gly	Leu 7765	Leu	Xaa	Pro	Xaa	Phe 7770	Lys	Xaa	Thr
Ser	Val 7775	G1y	Xaa	Leu	Tyr	Ser 7780	Gly	Cys	Arg	Leu	Thr 7785	Leu	Leu	Arg
Xaa	Glu 7790	Lys	Xaa	Xaa	Ala	Ala 7795	Thr	Xaa	Val	Asp	Xaa 7800	Xaa	Cys	Xaa
Xaa	Xaa 7805	Xaa	Asp	Pro	Xaa	Xaa 7810	Pro	Gly	Leu	Asp	Arg 7815	Glu	Xaa	Leu
Tyr	Trp 7820	Glu	Leu	Ser	Xaa	Leu 7825	Thr	Xaa	Xaa	Ile	Xaa 7830	Glu	Leu	Gly
Pro	Tyr 7835	Xaa	Leu	Asp	Arg	Xaa 7840		Leu	Tyr	Val	Asn 7845	Gly	Phe	Thr

His														
	Gln 7850	Asn	Ser	Val	Pro	Thr 7855	Thr	Ser	Thr	Pro	Gly 7860	Thr	Ser	Thr
Val	Tyr 7865	Trp	Ala	Thr	Thr	Gly 7870	Thr	Pro	Ser	Ser	Phe 7875	Pro	Gly	His
Thr	Glu 7880	Pro	Gly	Pro	Leu	Leu 7885	Ile	Pro	Phe	Thr	Phe 7890	Asn	Phe	Thr
Ile	Thr 7895	Asn	Leu	His	Tyr	Glu 7900	Glu	Asn	Met	Gln	His 7905	Pro	Gly	Ser
Arg	Lys 7910	Phe	Asn	Thr	Thr	Glu 7915	Arg	Val	Leu	Gln	Gly 7920	Leu	Leu	Thr
Pro	Leu 7925	Phe	Lys	Asn	Thr	Ser 7930	Val	Gly	Pro	Leu	Tyr 7935	Ser	Gly	Cys
Arg	Leu 7940	Thr	Leu	Leu	Arg	Pro 7945	Glu	Lys	Gln	Glu	Ala 7950	Ala	Thr	Gly
Val	Asp 7955	Thr	Ile	Cys	Thr	His 7960	Arg	Val	Asp	Pro	Ile 7965	Gly	Pro	Gly
Leu	Asp 7970	Arg	Glu	Xaa	Leu	Tyr 7975	Trp	Glu	Leu	Ser	Xaa 7980	Leu	Thr	Xaa
Xaa	Ile 7985	Xaa	Glu	Leu	Gly	Pro 7990	Tyr	Xaa	Leu	Asp	Arg 7995	Xaa	Ser	Leu
Tyr	Val 8000	Asn	Gly	Phe	Xaa	Xaa 8005	Xaa	Xaa	Xaa	Xaa	Xaa 8010	Xaa	Thr	Ser
-			-			8005					8010		Thr Thr	
Thr	8000 Pro	Gly	Thr	Ser	Xaa	8005 Val 8020	Xaa	Leu	Xaa	Thr	8010 Ser 8025	Gly	Thr	Pro
Thr Xaa	8000 Pro 8015 Xaa	Gly Xaa	Thr	Ser Xaa	Xaa Xaa	8005 Val 8020 Thr 8035	Xaa Xaa	Leu Xaa	Xaa Xaa	Thr Pro	8010 Ser 8025 Leu 8040	Gly Leu	Thr Xaa	Pro Pro
Thr Xaa Phe	8000 Pro 8015 Xaa 8030 Thr	Gly Xaa Leu	Thr Pro	Ser Xaa Phe	Xaa Xaa Thr	8005 Val 8020 Thr 8035 Ile 8050	Xaa Xaa Thr	Leu Xaa Asn	Xaa Xaa Leu	Thr Pro Xaa	8010 Ser 8025 Leu 8040 Tyr 8055	Gly Leu Glu	Thr Xaa Glu	Pro Pro Xaa
Thr Xaa Phe Met	8000 Pro 8015 Xaa 8030 Thr 8045 Xaa 8060	Gly Xaa Leu Xaa	Thr Pro Asn Pro	Ser Xaa Phe Gly	Xaa Xaa Thr Ser	8005 Val 8020 Thr 8035 Ile 8050	Xaa Xaa Thr	Leu Xaa Asn Phe	Xaa Xaa Leu Asn	Thr Pro Xaa Thr	8010 Ser 8025 Leu 8040 Tyr 8055 Thr 8070	Gly Leu Glu Glu	Thr Xaa Glu	Pro Pro Xaa Val
Thr Xaa Phe Met	8000 Pro 8015 Xaa 8030 Thr 8045 Xaa 8060 Gln	Gly Xaa Leu Xaa Gly	Thr Pro Asn Pro	Ser Xaa Phe Gly Leu	Xaa Xaa Thr Ser Xaa	8005 Val 8020 Thr 8035 Ile 8050 Arg 8065 Pro	Xaa Xaa Thr Lys Xaa	Leu Xaa Asn Phe	Xaa Xaa Leu Asn Lys	Thr Pro Xaa Thr	8010 Ser 8025 Leu 8040 Tyr 8055 Thr 8070 Thr 8085	Gly Leu Glu Glu Ser	Thr Xaa Glu Arg	Pro Pro Xaa Val Gly
Thr Xaa Phe Met Leu Xaa	8000 Pro 8015 Xaa 8030 Thr 8045 Xaa 8060 Gln 8075 Leu 8090	Gly Xaa Leu Xaa Gly Tyr	Thr Pro Asn Pro Leu Ser	Ser Xaa Phe Gly Leu Gly	Xaa Xaa Thr Ser Xaa Cys	8005 Val 8020 Thr 8035 Ile 8050 Arg 8065 Pro 8080	Xaa Xaa Thr Lys Xaa Leu	Leu Xaa Asn Phe Phe	Xaa Xaa Leu Asn Lys	Thr Pro Xaa Thr Xaa	8010 Ser 8025 Leu 8040 Tyr 8055 Thr 8070 Thr 8085 Arg 8100	Gly Leu Glu Glu Ser Xaa	Thr Xaa Glu Arg Val	Pro Pro Xaa Val Gly Lys
Thr Xaa Phe Met Leu Xaa Xaa	8000 Pro 8015 Xaa 8030 Thr 8045 Xaa 8060 Gln 8075 Leu 8090	Gly Xaa Leu Xaa Gly Tyr	Thr Pro Asn Pro Leu Ser	Ser Xaa Phe Gly Leu Gly	Xaa Xaa Thr Ser Xaa Cys	8005 Val 8020 Thr 8035 Ile 8050 Arg 8065 Pro 8080 Arg 8095 Val 8110	Xaa Xaa Thr Lys Xaa Leu Asp	Leu Xaa Asn Phe Thr	Xaa Xaa Leu Asn Lys Leu	Thr Pro Xaa Thr Xaa Leu Cys	8010 Ser 8025 Leu 8040 Tyr 8055 Thr 8070 Thr 8085 Arg 8100 Xaa 8115	Gly Leu Glu Glu Ser Xaa	Thr Xaa Glu Arg Val	Pro Pro Xaa Val Gly Lys Xaa

Leu	Asp 8150	Arg	Xaa	Ser	Leu	Tyr 8155	Val	Asn	Gly	Phe	Thr 8160	His	Arg	Ser
Ser	Val 8165	Pro	Thr	Thr	Ser	Ser 8170	Pro	Gly	Thr	Ser	Thr 8175	Val	His	Leu
Ala	Thr 8180	Ser	Gly	Thr	Pro	Ser 8185	Ser	Leu	Pro	Gly	His 8190	Thr	Ala	Pro
Val	Pro 8195	Leu	Leu	Ile	Pro	Phe 8200	Thr	Leu	Asn	Phe	Thr 8205	Ile	Thr	Asn
Leu	His 8210	Tyr	Glu	Glu	Asn	Met 8215	Gln	His	Pro	Gly	Ser 8220	Arg	Lys	Phe
Asn	Thr 8225	Thr	Glu	Arg	Val	Leu 8230	Gln	Gly	Leu	Leu	Lys 8235	Pro	Leu	Phe
Lys	Ser 8240	Thr	Ser	Val	Gly	Pro 8245	Leu	Tyr	Ser	Gly	Cys 8250	Arg	Leu	Thr
Leu	Leu 8255	Arg	Pro	Glu	Lys	His 8260	Gly	Ala	Ala	Thr	Gly 8265	Va1	Asp	Ala
Ile	Cys 8270	Thr	Leu	Arg	Leu	Asp 8275	Pro	Thr	Gly	Pro	Gly 8280	Leu	Asp	Arg
Glu	Xaa 8285	Leu	Tyr	Trp	Glu	Leu 8290	Ser	Xaa	Leu	Thr	Xaa 8295	Xaa	Ile	Xaa
Glu	Leu 8300	Gly	Pro	Tyr	Xaa	Leu 8305	Asp	Arg	Xaa	Ser	Leu 8310	Tyr	Val	Asn
Gly	Phe 8315	Xaa	Xaa	Xaa	Xaa	Xaa 8320	Xaa	Xaa	Xaa	Thr	Ser 8325	Thr	Pro	Gly
Thr	Ser 8330	Xaa	Val	Xaa	Leu	Xaa 8335	Thr	Ser	Gly	Thr	Pro 8340	Xaa	Xaa	Xaa
Pro	Xaa 8345	Xaa	Thr	Xaa	Xaa	Xaa 8350	Pro	Leu	Leu	Xaa	Pro 8355	Phe	Thr	Leu
Asn	Phe 8360	Thr	Ile	Thr	Asn	Leu 8365	Xaa	Tyr	Glu	Glu	Xaa 8370	Met	Xaa	Xaa
Pro	Gly 8375	Ser	Arg	Lys	Phe	Asn 8380	Thr	Thr	Glu	Arg	Val 8385	Leu	Gln	Gly
Leu	Leu 8390	Xaa	Pro	Xaa	Phe	Lys 8395	Xaa	Thr	Ser	Val	Gly 8400	Xaa	Leu	Tyr
Ser	Gly 8405	Cys	Arg	Leu	Thr	Leu 8410	Leu	Arg	Xaa	Glu	Lys 8415	Xaa	Xaa	Ala
Ala	Thr 8420		Val	Asp	Xaa	Xaa 8425	Cys	Xaa	Xaa	Xaa	Xaa 8430	Asp	Pro	Xaa
Xaa	Pro	Gly	Leu	Asp	Arg	Glu	Xaa	Leu	Tyr	Trp	Glu	Leu	Ser	Xaa

	8435					8440					8445			
Leu	Thr 8450	Xaa	Xaa	Ile	Xaa	Glu 8455	Leu	Gly	Pro	Tyr	Xaa 8460	Leu	Asp	Arg
Xaa	Ser 8465	Leu	Tyr	Val	Asn	Gly 8470	Phe	Thr	His	Arg	Thr 8475	Ser	Val	Pro
Thr	Thr 8480	Ser	Thr	Pro	Gly	Thr 8485	Ser	Thr	Val	His	Leu 8490	Ala	Thr	Ser
Gly	Thr 8495	Pro	Ser	Ser	Leu	Pro 8500	Gly	His	Thr	Ala	Pro 8505	Val	Pro	Leu
Leu	Ile 8510	Pro	Phe	Thr	Leu	Asn 8515	Phe	Thr	Ile	Thr	Asn 8520	Leu	Gln	Tyr
Glu	Glu 8525	Asp	Met	His	Arg	Pro 8530	Gly	Ser	Arg	Lys	Phe 8535	Asn	Thr	Thr
Glu	Arg 8540	Val	Leu	Gln	Gly	Leu 8545	Leu	Ser	Pro	Ile	Phe 8550	Lys	Asn	Ser
Ser	Val 8555	Gly	Pro	Leu	Tyr	Ser 8560	Gly	Cys	Arg	Leu	Thr 8565	Ser	Leu	Arg
Pro	Glu 8570	Lys	Asp	Gly	Ala	Ala 8575	Thr	Gly	Met	Asp	Ala 8580	Val	Cys	Leu
Tyr	His 8585	Pro	Asn	Pro	Lys	Arg 8590	Pro	Gly	Leu	Asp	Arg 8595	Glu	Gln	Leu
Tyr	Cys 8600	Glu	Leu	Ser	Gln	Leu 8605	Thr	His	Asn	Ile	Thr 8610	Glu	Leu	Gly
Pro	Tyr 8615	Ser	Leu	Asp	Arg	Asp 8620	Ser	Leu	Tyr	Val	Asn 8625	Gly	Phe	Thr
His	Gln 8630	Asn	Ser	Val	Pro	Thr 8635	Thr	Ser	Thr	Pro	Gly 8640	Thr	Ser	Thr
Val	Tyr 8645	Trp	Ala	Thr	Thr	Gly 8650	Thr	Pro	Ser	Ser	Phe 8655	Pro	Gly	His
Thr	Xaa 8660	Xaa	Xaa	Pro	Leu	Leu 8665	Xaa	Pro	Phe	Thr	Leu 8670	Asn	Phe	Thr
Ile	Thr 8675	Asn	Leu	Xaa	Tyr	Glu 8680	Glu	Xaa	Met	Xaa	Xaa 8685	Pro	Gly	Ser
Arg	Lys 8690		Asn	Thr	Thr	Glu 8695	Arg	Va1	Leu	Gln	Gly 8700	Leu	Leu	Xaa
Pro	Xaa 8705	Phe	Lys	Xaa	Thr	Ser 8710	Val	Gly	Xaa	Leu	Tyr 8715	Ser	Gly	Cys
Arg	Leu 8720		Leu	Leu	Arg	Xaa 8725	Glu	Lys	Xaa	Xaa	Ala 8730	Ala	Thr	Xaa

Val	Asp 8735	Xaa	Xaa	Cys	Xaa	Xaa 8740	Xaa	Xaa	Asp	Pro	Xaa 8745	Xaa	Pro	Gly
Leu	Asp 8750	Arg	Glu	Xaa	Leu	Tyr 8755	Trp	Glu	Leu	Ser	Xaa 8760	Leu	Thr	Xaa
Xaa	Ile 8765	Xaa	Glu	Leu	Gly	Pro 8770		Xaa	Leu	Asp	Arg 8775	Xaa	Ser	Leu
Tyr	Val 8780	Asn	Gly	Phe	Thr	His 8785	Trp	Ser	Ser	Gly	Leu 8790	Thr	Thr	Ser
Thr	Pro 8795	Trp	Thr	Ser	Thr	Val 8800	Asp	Leu	Gly	Thr	Ser 8805	Gly	Thr	Pro
Ser	Pro 8810	Val	Pro	Ser	Pro	Thr 8815	Thr	Ala	Gly	Pro	Leu 8820	Leu	Val	Pro
Phe	Thr 8825	Leu	Asn	Phe	Thr	Ile 8830	Thr	Asn	Leu	Gln	Tyr 8835	Glu	Glu	Asp
Met	His 8840	Arg	Pro	Gly	Ser	Arg 8845		Phe	Asn	Ala	Thr 8850	Glu	Arg	Val
Leu	Gln 8855	Gly	Leu	Leu	Ser	Pro 8860	Ile	Phe	Lys	Asn	Thr 8865	Ser	Val	Gly
Pro	Leu 8870	Tyr	Ser	Gly	Cys	Arg 8875		Thr	Leu	Leu	Arg 8880	Pro	Glu	Lys
Gln	Glu 8885	Ala	Ala	Thr	Gly	Val 8890		Thr	Ile	Cys	Thr 8895	His	Arg	Val
Asp	Pro 8900	Ile	Gly	Pro	Gly	Leu 8905	Asp	Arg	Glu	Xaa	Leu 8910	Tyr	Trp	Glu
Leu	Ser 8915	Xaa	Leu	Thr	Xaa	Xaa 8920		Xaa	Glu	Leu	Gly 8925	Pro	Tyr	Xaa
Leu	Asp 8930	Arg	Xaa	Ser	Leu	Tyr 8935		Asn	Gly	Phe	Xaa 8940	Xaa	Xaa	Xaa
Xaa	Xaa 8945	Xaa	Xaa	Thr	Ser	Thr 8950	Pro	Gly	Thr	Ser	Xaa 8955	Val	Xaa	Leu
Xaa	Thr 8960	Ser	Gly	Thr	Pro	Xaa 8965		Xaa	Pro	Xaa	Xaa 8970	Thr	Xaa	Xaa
Xaa	Pro 8975	Leu	Leu	Xaa	Pro	Phe 8980		Leu	Asn	Phe	Thr 8985	Ile	Thr	Asn
Leu	Xaa 8990	Tyr	Glu	Glu	Xaa	Met 8995	Xaa	Xaa	Pro	Gly	Ser 9000	Arg	Lys	Phe
Asn	Thr 9005	Thr	Glu	Arg	Val	Leu 9010	Gln	Gly	Leu	Leu	Xaa 9015	Pro	Xaa	Phe
Lys	Xaa 9020		Ser	Val	Gly	Xaa 9025		Tyr	Ser	Gly	Cys 9030	Arg	Leu	Thr

Leu	Leu 9035	Arg	Xaa	Glu	Lys	Xaa 9040	Xaa	Ala	Ala	Thr	Xaa 9045	Val	Asp	Xaa
Xaa	Cys 9050	Xaa	Xaa	Xaa	Xaa	Asp 9055	Pro	Xaa	Xaa	Pro	Gly 9060	Leu	Asp	Arg
Glu	Xaa 9065	Leu	Tyr	Trp	Glu	Leu 9070	Ser	Xaa	Leu	Thr	Xaa 9075	Хаа	Ile	Xaa
Glu	Leu 9080	Gly	Pro	Tyr	Xaa	Leu 9085	Asp	Arg	Xaa	Ser	Leu 9090	Tyr	Val	Asn
Gly	Phe 9095	Thr	His	Arg	Ser	Phe 9100	Gly	Leu	Thr	Thr	Ser 9105	Thr	Pro	Trp
Thr	Ser 9110	Thr	Val	Asp	Leu	Gly 9115	Thr	Ser	Gly	Thr	Pro 9120	Ser	Pro	Val
Pro	Ser 9125	Pro	Thr	Thr	Ala	Gly 9130	Pro	Leu	Leu	Val	Pro 9135	Phe	Thr	Leu
Asn	Phe 9140		Ile	Thr	Asn	Leu 9145	Gln	Tyr	Glu	Glu	Asp 9150	Met	His	Arg
Pro	Gly 9155	Ser	Arg	Lys	Phe	Asn 9160	Thr	Thr	Glu	Arg	Val 9165	Leu	Gln	Gly
Leu	Leu 9170		Pro	Leu	Phe	Arg 9175	Asn	Thr	Ser	Val	Ser 9180	Ser	Leu	Tyr
Ser	Gly 9185	Cys	Arg	Leu	Thr	Leu 9190	Leu	Arg	Pro	Glu	Lys 9195	Asp	Gly	Ala
Ala	Thr 9200	Arg	Val	Asp	Ala	Val 9205	Cys	Thr	His	Arg	Pro 9210	Asp	Pro	Lys
Ser	Pro 9215	Gly	Leu	Asp	Arg	Glu 9220	Xaa	Leu	Tyr	Trp	Glu 9225	Leu	Ser	Xaa
Leu	Thr 9230	Xaa	Xaa	Ile	Xaa	Glu 9235	Leu	Gly	Pro	Tyr	Xaa 9240	Leu	Asp	Arg
Xaa	Ser 9245	Leu	Tyr	Val	Asn	Gly 9250	Phe	Xaa	Xaa	Xaa	Xaa 9255	Xaa	Xaa	Xaa
Хаа	Thr 9260		Thr	Pro	Gly	Thr 9265	Ser	Xaa	Val	Xaa	Leu 9270	Xaa	Thr	Ser
G1 y	Thr 9275		Xaa	Xaa	Xaa	Pro 9280	Xaa	Xaa	Thr	Xaa	Xaa 9285	Xaa	Pro	Leu
Leu	Xaa 9290	Pro	Phe	Thr	Leu	Asn 9295	Phe	Thr	Ile	Thr	Asn 9300	Leu	Xaa	Tyr
Glu	Glu 9305	Xaa	Met	Xaa	Xaa	Pro 9310	Gly	Ser	Arg	Lys	Phe 9315	Asn	Thr	Thr
Glu	Arg	Val	Leu	Gln	Gly	Leu	Leu	Xaa	Pro	Xaa	Phe	Lys	Xaa	Thr

	9320					9325					9330			
Ser	Val 9335	Gly	Xaa	Leu	Tyr	Ser 9340	Gly	Cys	Arg	Leu	Thr 9345	Leu	Leu	Arg
Xaa	Glu 9350	Lys	Xaa	Xaa	Ala	Ala 9355	Thr	Xaa	Val	Asp	Xaa 9360	Xaa	Cys	Xaa
Xaa	Xaa 9365	Xaa	Asp	Pro	Xaa	Xaa 9370	Pro	Gly	Leu	Asp	Arg 9375	Glu	Xaa	Leu
Tyr	Trp 9380	Glu	Leu	Ser	Xaa	Leu 9385	Thr	Xaa	Xaa	Ile	Xaa 9390	Glu	Leu	Gly
Pro	Tyr 9395	Xaa	Leu	Asp	Arg	Xaa 9400	Ser	Leu	Tyr	Val	Asn 9405	Gly	Phe	Thr
His	Trp 9410	Ile	Pro	Val	Pro	Thr 9415	Ser	Ser	Thr	Pro	Gly 9420	Thr	Ser	Thr
Val	Asp 9425	Leu	Gly	Ser	Gly	Thr 9430	Pro	Ser	Ser	Leu	Pro 9435	Ser	Pro	Thr
Thr	Ala 9440	Gly	Pro	Leu	Leu	Val 9445	Pro	Phe	Thr	Leu	Asn 9450	Phe	Thr	Ile
Thr	Asn 9455	Leu	Gln	Tyr	Gly	Glu 9460	Asp	Met	Gly	His	Pro 9465	Gly	Ser	Arg
Lys	Phe 9470	Asn	Thr	Thr	Glu	Arg 9475	Val	Leu	Gln	Gly	Leu 9480	Leu	Gly	Pro
Ile	Phe 9485	LÀS	Asn	Thr	Ser	Val 9490	Gly	Pro	Leu	Tyr	Ser 9495	Gly	Cys	Arg
Leu	Thr 9500	Ser	Leu	Arg	Ser	Glu 9505	Lys	Asp	Gly	Ala	Ala 9510	Thr	Gly	Val
Asp	Ala 9515	Ile	Суѕ	Ile	His	His 9520	Leu	Asp	Pro	Lys	Ser 9525	Pro	Gly	Leu
Asp	Arg 9530	Glu	Xaa	Leu	Tyr	Trp 9535	Glu	Leu	Ser	Xaa	Leu 9540	Thr	Xaa	Xaa
Ile	Xaa 9545	Glu	Leu	Gly	Pro	Tyr 9550	Xaa	Leu	Asp	Arg	Xaa 9555	Ser	Leu	Tyr
Val	Asn 9560	Gly	Phe	Xaa	Xaa	Xaa 9565	Xaa	Xaa	Xaa	Xaa	Xaa 9570	Thr	Ser	Thr
Pro	Gly 9575	Thr	Ser	Xaa	Val	Xaa 9580	Leu	Xaa	Thr	Ser	Gly 9585	Thr	Pro	Xaa
Xaa	Xaa 9590	Pro	Xaa	Xaa	Thr	Xaa 9595	Xaa	Xaa	Pro	Leu	Leu 9600	Xaa	Pro	Phe
Thr	Leu 9605	Asn	Phe	Thr	Ile	Thr 9610	Asn	Leu	Xaa	Tyr	Glu 9615	Glu	Xaa	Met

Xaa	Xaa 9620	Pro	Gly	Ser	Arg	Lys 9625	Phe	Asn	Thr	Thr	Glu 9630	Arg	Val	Leu
Gln	Gly 9635	Leu	Leu	Xaa	Pro	Xaa 9640	Phe	Lys	Xaa	Thr	Ser 9645	Val	Gly	Xaa
Leu	Tyr 9650	Ser	Gly	Cys	Arg	Leu 9655	Thr	Leu	Leu	Arg	Xaa 9660	Glu	Lys	Xaa
Xaa	Ala 9665	Ala	Thr	Xaa	Val	Asp 9670	Xaa	Xaa	Cys	Xaa	Xaa 9675	Xaa	Xaa	Asp
Pro	Xaa 9680	Xaa	Pro	Gly	Leu	Asp 9685	Arg	Glu	Xaa	Leu	Tyr 9690	Trp	Glu	Leu
Ser	Xaa 9695	Leu	Thr	Xaa	Xaa	Ile 9700	Xaa	Glu	Leu	Gly	Pro 9705	Tyr	Xaa	Leu
Asp	Arg 9710	Xaa	Ser	Leu	Tyr	Val 9715	Asn	Gly	Phe	Thr	His 9720	Gln	Thr	Phe
Ala	Pro 9725	Asn	Thr	Ser	Thr	Pro 9730	Gly	Thr	Ser	Thr	Val 9735	Asp	Leu	Gly
Thr	Ser 9740	Gly	Thr	Pro	Ser	Ser 9745	Leu	Pro	Ser	Pro	Thr 9750	Ser	Ala	Gly
Pro	Leu 9755	Leu	Val	Pro	Phe	Thr 9760	Leu	Asn	Phe	Thr	Ile 9765	Thr	Asn	Leu
Gln	Tyr 9770	Glu	Glu	Asp	Met	His 9775	His	Pro	Gly	Ser	Arg 9780	Lys	Phe	Asn
Thr	Thr 9785	Glu	Arg	Val	Leu	Gln 9790	Gly	Leu	Leu	Gly	Pro 9795	Met	Phe	Lys
Asn	Thr 9800	Ser	Val	Gly	Leu	Leu 9805	Tyr	Ser	Gly	Cys	Arg 9810	Leu	Thr	Leu
Leu	Arg 9815		Glu	Lys	Asn	Gly 9820	Ala	Ala	Thr	Arg	Val 9825	Asp	Ala	Val
Cys	Thr 9830	His	Arg	Pro	Asp	Pro 9835	Lys	Ser	Pro	Gly	Leu 9840	Asp	Arg	Glu
Xaa	Leu 9845	Tyr	Trp	Glu	Leu	Ser 9850	Xaa	Leu	Thr	Xaa	Xaa 9855	Ile	Xaa	Glu
Leu	Gly 9860		Tyr	Xaa	Leu	Asp 9865	Arg	Xaa	Ser	Leu	Tyr 9870	Val	Asn	Gly
Phe	Xaa 9875	Xaa	Xaa	Xaa	Xaa	Xaa 9880	Xaa	Xaa	Thr	Ser	Thr 9885	Pro	Gly	Thr
Ser	Xaa 9890		Xaa	Leu	Xaa	Thr 9895	Ser	Gly	Thr	Pro	Xaa 9900	Xaa	Xaa	Pro
Xaa	Xaa 9905		Ala	Pro	Val	Pro 9910	Leu	Leu	Ile	Pro	Phe 9915	Thr	Leu	Asn

- Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn Met Gln His Pro 9920 9925 9930
- Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 9935 9940 9945
- Leu Arg Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser 9950 9955 9960
- Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala 9965 9970 9975
- Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly 9980 9985 9990
- Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu 9995  $10000 \,$  10005
- Thr Asn Ser Val Thr Glu Leu  $\,$  Gly Pro Tyr Thr Leu  $\,$  Asp Arg Asp  $\,$  10010  $\,$   $\,$  10015  $\,$  10020
- Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro Thr 10025 10030 10035
- Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly 10040 10050
- Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu 10055 10060 10065
- Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu 10070 10075 10080
- Val Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu 10085 10090 10095
- Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 10100 10105 10110
- Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro 10115 10120 10125
- Glu Lys  $\mbox{Arg Gly Ala Ala Thr}$   $\mbox{Gly Val Asp Thr Ile}$   $\mbox{Cys Thr His}$   $\mbox{10130}$   $\mbox{10135}$   $\mbox{10140}$
- Arg Leu Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr 10145 10150 10155
- Trp Glu  $\,$  Leu Ser Lys Leu Thr  $\,$  Arg Gly Ile Ile Glu  $\,$  Leu Gly Pro  $\,$  10160  $\,$   $\,$  10170  $\,$
- Tyr Leu Leu Asp Arg Gly Ser Leu Tyr Val Asp Gly Phe Thr His 10175 10180 10185
- Arg Asn Phe Val Pro Ile Thr Ser Thr Pro Gly Thr Ser Thr Val 10190 10195 10200
- His Leu Gly Thr Ser Glu Thr Pro Ser Ser Leu Pro Arg Pro Ile

	10205					10210					10215			
Val	Pro 10220	Gly	Pro	Leu	Leu	Val 10225	Pro	Phe	Thr	Leu	Asn 10230	Phe	Thr	Ile
Thr	Asn 10235	Leu	Gln	Tyr	Glu	Glu 10240	Ala	Met	Arg	His	Pro 10245	Gly	Ser	Arg
Lys	Phe 10250	Asn	Thr	Thr	Glu	Arg 10255	Val	Leu	Gln	Gly	Leu 10260	Leu	Arg	Pro
Leu	Phe 10265	Lys	Asn	Thr	Ser	Ile 10270	Gly	Pro	Leu	Tyr	Ser 10275	Ser	Cys	Arg
Leu	Thr 10280	Leu	Leu	Arg	Pro	Glu 10285	Lys	Asp	Lys	Ala	Ala 10290	Thr	Arg	Val
Asp	Ala 10295	Ile	Cys	Thr	His	His 10300	Pro	Asp	Pro	Gln	Ser 10305	Pro	Gly	Leu
Asn	Arg 10310	G1u	Gln	Leu	Tyr	Trp 10315	Glu	Leu	Ser	Gln	Leu 10320	Thr	His	Gly
Ile	Thr 10325	Glu	Leu	Gly	Pro	Tyr 10330	Thr	Leu	Asp	Arg	Asp 10335	Ser	Leu	Tyr
Val	Asp 10340	G1y	Phe	Thr	His	Trp 10345	Ser	Pro	Ile	Pro	Thr 10350	Thr	Ser	Thr
Pro	Gly 10355	Thr	Ser	Ile	Val	Asn 10360	Leu	Gly	Thr	Ser	Gly 10365	Ile	Pro	Pro
Ser	Leu 10370	Pro	Glu	Thr	Thr	Xaa 10375	Xaa	Xaa	Pro	Leu	Leu 10380	Xaa	Pro	Phe
Thr	Leu 10385	Asn	Phe	Thr	Ile	Thr 10390	Asn	Leu	Xaa	Tyr	Glu 10395	Glu	Xaa	Met
Xaa	Xaa 10400	Pro	Gly	Ser	Arg	Lys 10405	Phe	Asn	Thr	Thr	Glu 10410	Arg	Val	Leu
Gln	Gly 10415	Leu	Leu	Lys	Pro	Leu 10420	Phe	Lys	Ser	Thr	Ser 10425	Val	Gly	Pro
Leu	Tyr 10430	Ser	Gly	Cys	Arg	Leu 10435	Thr	Leu	Leu	Arg	Pro 10440	Glu	Lys	Asp
Gly	Val 10445	Ala	Thr	Arg	Val	Asp 10450	Ala	Ile	Cys	Thr	His 10455	Arg	Pro	Asp
Pro	Lys 10460		Pro	Gly	Leu	Asp 10465	Arg	Gln	Gln	Leu	Tyr 10470	Trp	Glu	Leu
Ser	Gln 10475		Thr	His	Ser	Ile 10480	Thr	Glu	Leu	Gly	Pro 10485	Tyr	Thr	Leu
Asp	Arg 10490		Ser	Leu	Tyr	Val 10495	Asn	Gly	Phe	Thr	Gln 10500	Arg	Ser	Ser

Val	Pro 10505	Thr	Thr	Ser	Thr	Pro 10510	Gly	Thr	Phe	Thr	Val 10515	Gln	Pro	Glu
Thr	Ser 10520	Glu	Thr	Pro	Ser	Ser 10525	Leu	Pro	Gly	Pro	Thr 10530	Ala	Thr	Gly
Pro	Val 10535	Leu	Leu	Pro	Phe	Thr 10540	Leu	Asn	Phe	Thr	Ile 10545	Thr	Asn	Leu
G1n	Tyr 10550	Glu	Glu	Asp	Met	His 10555	Arg	Pro	Gly	Ser	Arg 10560	Lys	Phe	Asn
Thr	Thr 10565	Glu	Arg	Val	Leu	Gln 10570	Gly	Leu	Leu	Met	Pro 10575	Leu	Phe	Lys
Asn	Thr 10580	Ser	Val	Ser	Ser	Leu 10585	Tyr	Ser	Gly	Cys	Arg 10590	Leu	Thr	Leu
Leu	Arg 10595	Pro	Glu	Lys	Asp	Gly 10600	Ala	Ala	Thr	Arg	Val 10605	Asp	Ala	Val
Cys	Thr 10610	His	Arg	Pro	Asp	Pro 10615	Lys	Ser	Pro	Gly	Leu 10620	Asp	Arg	Glu
Arg	Leu 10625	Tyr	Trp	Lys	Leu	Ser 10630		Leu	Thr	His	Gly 10635	Ile	Thr	Glu
Leu	Gly 10640	Pro	Tyr	Thr	Leu	Asp 10645	Arg	His	Ser	Leu	Tyr 10650	Val	Asn	Gly
Phe	Thr 10655	His	Gln	Ser	Ser	Met 10660	Thr	Thr	Thr	Arg	Thr 10665	Pro	Asp	Thr
Ser	Thr 10670		His	Leu	Ala	Thr 10675	Ser	Arg	Thr	Pro	Ala 10680	Ser	Leu	Ser
Gly	Pro 10685	Thr	Thr	Ala	Ser	Pro 10690	Leu	Leu	Val	Leu	Phe 10695	Thr	Ile	Asn
Phe	Thr 10700	Ile	Thr	Asn	Leu	Arg 10705	Tyr	Glu	Glu	Asn	Met 10710	His	His	Pro
Gly	Ser 10715		Lys	Phe	Asn	Thr 10720		Glu	Arg	Val	Leu 10725	Gln	Gly	Leu
Leu	Arg 10730		Val	Phe	Lys	Asn 10735		Ser	Val	Gly	Pro 10740	Leu	Tyr	Ser
Gly	Cys 10745	Arg	Leu	Thr	Leu	Leu 10750	Arg	Pro	Lys	Lys	Asp 10755	Gly	Ala	Ala
Thr	Lys 10760	Val	Asp	Ala	Ile	Cys 10765	Thr	Tyr	Arg	Pro	Asp 10770	Pro	Lys	Ser
Pro	Gly 10775		Asp	Arg	Glu	Gln 10780	Leu	Tyr	Trp	Glu	Leu 10785	Ser	Gln	Leu
Thr	His 10790		Ile	Thr	Glu	Leu 10795		Pro	Tyr	Thr	Gln 10800		Arg	Asp

Ser	Leu 10805	Tyr	Asn	Val	Gly	Phe 10810	Thr	Gln	Arg	Ser	Ser 10815	Val	Pro	Thr
Thr	Ser 10820	Val	Pro	Gly	Thr	Pro 10825	Thr	Val	Asp	Leu	Gly 10830	Thr	Ser	Gly
Thr	Pro 10835	Val	Ser	Lys	Pro	Gly 10840	Pro	Ser	Ala	Ala	Ser 10845	Pro	Leu	Leu
Val	Leu 10850	Phe	Thr	Leu	Asn	Gly 10855	Thr	Ile	Thr	Asn	Leu 10860	Arg	Tyr	Glu
Glu	Asn 10865	Met	Gln	His	Pro	Gly 10870	Ser	Arg	Lys	Phe	Asn 10875	Thr	Thr	Glu
Arg	Val 10880	Leu	Gln	Gly	Leu	Leu 10885	Arg	Ser	Leu	Phe	Lys 10890	Ser	Thr	Ser
Val	Gly 10895	Pro	Leu	Tyr	Ser	Gly 10900	Cys	Arg	Leu	Thr	Leu 10905	Leu	Arg	Pro
Glu	Lys 10910	Asp	Gly	Thr	Ala	Thr 10915	Gly	Val	Asp	Ala	Ile 10920	Cys	Thr	His
His	Pro 10925	Asp	Pro	Lys	Ser	Pro 10930	Arg	Leu	Asp	Arg	Glu 10935	Gln	Leu	Tyr
Trp	Glu 10940	Leu	Ser	Gln	Leu	Thr 10945		Asn	Ile	Thr	Glu 10950	Leu	Gly	His
Tyr	Ala 10955	Leu	Asp	Asn	Asp	Ser 10960	Leu	Phe	Val	Asn	Gly 10965	Phe	Thr	His
Arg	Ser 10970	Ser	Val	Ser	Thr	Thr 10975	Ser	Thr	Pro	Gly	Thr 10980	Pro	Thr	Val
Tyr	Leu 10985	Gly	Ala	Ser	Lys	Thr 10990	Pro	Ala	Ser	Ile	Phe 10995	Gly	Pro	Ser
Ala	Ala 11000	Ser	His	Leu	Leu	Ile 11005		Phe	Thr	Leu	Asn 11010	Phe	Thr	Ile
Thr	Asn 11015	Leu	Arg	Tyr	Glu	Glu 11020	Asn	Met	Trp	Pro	Gly 11025	Ser	Arg	Lys
Phe	Asn 11030		Thr	Glu	Arg	Val 11035		Gln	Gly	Leu	Leu 11040	Arg	Pro	Leu
	11045					11050			_		Gly 11055			
	11060					11065					Thr 11070			
	11075					11080					Pro 11085			
Arg	Glu	Gln	Leu	Tyr	Leu	Glu	Leu	Ser	Gln	Leu	Thr	His	Ser	íle

	11090					11095					11100			
Thr	Glu 11105	Leu	Gly	Pro	Tyr	Thr 11110	Leu	Asp	Arg	Asp	Ser 11115	Leu	Tyr	Val
Asn	Gly 11120	Phe	Thr	His	Arg	Ser 11125	Ser	Va1	Pro	Thr	Thr 11130	Ser	Thr	Gly
Val	Val 11135	Ser	Glu	Glu	Pro	Phe 11140	Thr	Leu	Asn	Phe	Thr 11145	Ile	Asn	Asn
Leu	Arg 11150	Tyr	Met	Ala		Met 1 <b>1</b> 155	Gly	Gln	Pro	G1y	Ser 11160	Leu	Lys	Phe
Asn	Ile 11165	Thr	Asp	Asn	Val	Met 11170	Lys	His	Leu	Leu	Ser 11175	Pro	Leu	Phe
Gln	Arg 11180	Ser	Ser	Leu	Gly	Ala 11185	Arg	Tyr	Thr	Gly	Cys 11 <b>1</b> 90	Arg	Val	Ile
Ala	Leu 11195	Arg	Ser	Val	Lys	Asn 11200	Gly	Ala	Glu	Thr	Arg 11205	Val	Asp	Leu
Leu	Cys 11210	Thr	Tyr	Leu	Gln	Pro 11215	Leu	Ser	Gly	Pro	Gly 11220	Leu	Pro	Ile
Lys	Gln 11225	Val	Phe	His	Glu	Leu 11230	Ser	Gln	Gln	Thr	His 11235	Gly	Ile	Thr
Arg	Leu 11240	Gly	Pro	Tyr	Ser	Leu 11245	Asp	Lys	Asp	Ser	Leu 11250		Leu	Asn
Gly	Tyr 11255	Asn	Glu	Pro	Gly	Leu 11260	Asp	Glu	Pro	Pro	Thr 11265	Thr	Pro	Lys
Pro	Ala 11270	Thr	Thr	Phe	Leu	Pro 11275	Pro	Leu	Ser	Glu	Ala 11280	Thr	Thr	Ala
Met	Gly 11285	Tyr	His	Leu	Lys	Thr 11290	Leu	Thr	Leu	Asn	Phe 11295	Thr	Ile	Ser
Asn	Leu 11300	Gln	Tyr	Ser	Pro	Asp 11305	Met	Gly	Lys	Gly	Ser 11310		Thr	Phe
Asn	Ser 11315	Thr	Glu	G1y	Val	Leu 11320		His	Leu	Leu	Arg 11325	Pro	Leu	Phe
Gln	Lys 11330	Ser	Ser	Met	Gly	Pro 11335	Phe	Tyr	Leu	Gly	Cys 11340	Gln	Leu	Ile
Ser	Leu 11345	Arg	Pro	Glu	Lys	Asp 11350	Gly	Ala	Ala	Thr	Gly 11355	Val	Asp	Thr
Thr	Cys 11360	Thr	Tyr	His	Pro	Asp 11365	Pro	Val	Gly	Pro	Gly 11370		Asp	Ile
Gln	Gln 11375		Tyr	Trp	Glu	Leu 11380	Ser	Gln	Leu	Thr	His 11385		Val	Thr

Gln	Leu 11390	Gly	Phe	Tyr	Val	Leu 11395	Asp	Arg	Asp	Ser	Leu 11400	Phe	Ile	Asn
Gly	Tyr 11405	Ala	Pro	Gln	Asn	Leu 11410	Ser	Ile	Arg	Gly	Glu 11415	Tyr	Gln	Ile
Asn	Phe 11420	His	Ile	Val	Asn	Trp 11425	Asn	Leu	Ser	Asn	Pro 11430	Asp	Pro	Thr
Ser	Ser 11435	Glu	Tyr	Ile	Thr	Leu 11440	Leu	Arg	Asp	Ile	Gln 11445	Asp	Lys	Val
Thr	Thr 11450	Leu	Tyr	Lys	Gly	Ser 11455	Gln	Leu	His	Asp	Thr 11460	Phe	Arg	Phe
Cys	Leu 11465	Val	Thr	Asn	Leu	Thr 11470	Met	Asp	Ser	Val	Leu 11 <b>4</b> 75	Val	Thr	Val
Lys	Ala 11480	Leu	Phe	Ser	Ser	Asn 11485	Leu	Asp	Pro	Ser	Leu 11490	Val	Glu	Gln
Val	Phe 11495	Leu	Asp	Lys	Thr	Leu 11500	Asn	Ala	Ser	Phe	His 11505	Trp	Leu	Gly
Ser	Thr 11510		Gln	Leu	Val	Asp 11515		His	Val	Thr	Glu 11520	Met	Glu	Ser
Ser	Val 11525	Tyr	Gln	Pro	Thr	Ser 11530	Ser	Ser	Ser	Thr	Gln 11535	Hís	Phe	Tyr
Leu	Asn 11540		Thr	Ile	Thr	Asn 11545	Leu	Pro	Tyr	Ser	Gln 11550		Lys	Ala
Gln	Pro 11555		Thr	Thr	Asn	Tyr 11560		Arg	Asn	Lys	Arg 11565	Asn	Ile	Glu
Asp	Ala 11570	Leu	Asn	Gln	Leu	Phe 11575	Arg	Asn	Ser	Ser	Ile 11580	Lys	Ser	Tyr
Phe	Ser 11585		Cys	Gln	Val	Ser 11590		Phe	Arg	Ser	Val 11595		Asn	Arg
Hís	His 11600		Gly	Val	Asp	Ser 11605		Cys	Asn	Phe	Ser 11610		Leu	Ala
Arg	Arg 11615		Asp	Arg	Val	Ala 11620	Ile	Tyr	Glu	Glu	Phe 11625	Leu	Arg	Met
Thr	Arg 11630		Gly	Thr	Gln	Leu 11635		Asn	Phe	Thr	Leu 11640	Asp	Arg	Ser
Ser	Val 11645		Val	Asp	Gly	Tyr 11650		Pro	Asn	Arg	Asn 11655		Pro	Leu
Thr	Gly 11660	Asn	Ser	Asp	Leu	Pro 11665	Phe	Trp	Ala	Val	Ile 11670	Leu	I1e	Gly
Leu	Ala 11675		Leu	Leu	Gly	Leu 11680	Ile	Thr	Cys	Leu	Ile 11685	Cys	Gly	Val

Leu Val  $\,$  Thr Thr Arg Arg Arg  $\,$  Lys Lys Glu Gly Glu  $\,$  Tyr Asn Val  $\,$  11690  $\,$   $\,$  11700  $\,$ 

Gln Gln Cys Pro Gly Tyr Tyr Gln Ser His Leu Asp Leu Glu 11705 11710 11715

Asp Leu Gln 11720

<210> 163

<211> 156

<212> PRT

<213> Homo sapiens

<400> 163

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe 20 30

Asn Ala Thr Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys  $35 \hspace{1cm} 40 \hspace{1cm} 45 \hspace{1cm}$ 

Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu 50 60

Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu 65 70 75 80

Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr 85 90 95

Trp Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr  $100 \hspace{1cm} 105 \hspace{1cm} 110 \hspace{1cm}$ 

Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn  $115 \\ 120 \\ 125$ 

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala  $130\,$ 

Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His Thr

<210> 164

<211> 42

<213> Homo sapiens

<400> 164

Ala Thr Val Pro Phe Met Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1  $\phantom{-}$   $\phantom{-}$   $\phantom{-}$   $\phantom{-}$   $\phantom{-}$  10  $\phantom{-}$   $\phantom{-}$  15

Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Ala Thr Glu Arg Glu Leu Gln Gly Leu 35 40

<210> 165

<211> 42

<212> PRT

<213> Homo sapiens

<400> 165

Thr Ala Val Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1  $\phantom{\bigg|}$ 

Asn Leu Gln Tyr Gly Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 166

<211> 42

<212> PRT

<213> Homo sapiens

<400> 166

Val Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1  $\phantom{0}$   $\phantom{0}$ 

Asn Leu Gln Tyr Glu Glu Ala Met Arg His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35

```
<211> 42
<212> PRT
<213> Homo sapiens
<400> 167
Ala Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe
Ser Thr Thr Glu Arg Val Leu Gln Gly Leu
<210> 168
<211> 42
<212> PRT
<213> Homo sapiens
<400> 168
Ala Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe
Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
        35
<210> 169
<211> 42
<212> PRT
<213> Homo sapiens
<400> 169
Ala Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
Asn Leu Gln Tyr Glu Val Asp Met Arg His Pro Gly Ser Arg Lys Phe 20 \hspace{1cm} 25 \hspace{1cm} 30 \hspace{1cm}
```

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu

```
35
                          40
<210> 170
<211> 42
<212> PRT
<213> Homo sapiens
<400> 170
Ser Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe
Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
<210> 171
<211> 42
<212> PRT
<213> Homo sapiens
<400> 171
Ala Ala Gly Pro Leu Leu Met Pro Phe Thr Leu Asn Phe Thr Ile Thr
Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe
Asn Thr Met Glu Ser Val Leu Gln Gly Leu
        35
<210> 172
<211> 42
<212> PRT
<213> Homo sapiens
<400> 172
 Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Cys Thr Ile Thr
                                    10
```

Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu Gln Gly Leu <210> 173 <211> 42 <212> PRT <213> Homo sapiens <400> 173 Ala Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Gly Glu Asp Met Gly His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu <210> 174 <211> 42 <212> PRT <213> Homo sapiens <400> 174 Thr Ala Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr

<400> 174

Thr Ala Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr 15

Asn Leu Gln Tyr Gly Glu Asp Met Gly His Pro Gly Ser Arg Lys Phe 25

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 40

<210> 175

<221> 42

<213> Homo sapiens

<400> 175

Asn Leu Gln Tyr Gly Glu Asp Met Gly His Pro Gly Ser Arg Lys Phe  $20 \hspace{1cm} 25 \hspace{1cm} 30 \hspace{1cm}$ 

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35

<210> 176

<211> 42

<212> PRT

<213> Homo sapiens

<400> 176

Asn Leu Lys Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe 20 30

Asn Thr Thr Glu Arg Val Leu Gln Thr Leu 35 40

<210> 177

<211> 42

<212> PRT

<213> Homo sapiens

<400> 177

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1  $\phantom{-}$  10  $\phantom{-}$  15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe 20 25 30

Asn Ala Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 178

<211> 42

<213> Homo sapiens

<400> 178

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1  $\phantom{0}$  5  $\phantom{0}$  10  $\phantom{0}$  15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Pre 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 179

<211> 42

<212> PRT

<213> Homo sapiens

<400> 179

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1  $\phantom{\bigg|}$  10  $\phantom{\bigg|}$  15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe  $20 \hspace{1cm} 25 \hspace{1cm} 30 \hspace{1cm}$ 

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 180

<211> 42

<212> PRT

<213> Homo sapiens

<400> 180

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35

```
<211> 42
<212> PRT
<213> Homo sapiens
<400> 181
Ala Thr Gly Pro Val Leu Leu Pro Phe Thr Leu Asn Phe Thr Ile Thr
Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe
Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
<210> 182
<211> 42
<212> PRT
<213> Homo sapiens
<400> 182
Ala Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
Asn Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe
Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
<210> 183
<211> 42
<212> PRT
<213> Homo sapiens
<400> 183
```

Ser Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1  $10^{-1}$  Asn Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe 20  $25^{-3}$  Asn Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu

```
35
                          40
<210> 184
<211> 42
<212> PRT
<213> Homo sapiens
<400> 184
Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Phe Thr Ile Thr
Asn Gln Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe
Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
<210> 185
<211> 42
<212> PRT
<213> Homo sapiens
<400> 185
Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Phe Thr Ile Thr
Asn Leu Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe
Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
<210> 186
<211> 42
<212> PRT
<213> Homo sapiens
<400> 186
Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr
                                   10
```

<400> 189

```
Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
<210> 187
<211> 42
<212> PRT
<213> Homo sapiens
<400> 187
Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr
Asn Leu Arg Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
<210> 188
<211> 42
<212> PRT
<213> Homo sapiens
<400> 188
Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr
Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
        35
<210> 189
<211> 42
<212> PRT
<213> Homo sapiens
```

<211> 41 <212> PRT

```
Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr
Asp Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
<210> 190
<211> 42
<212> PRT
<213> Homo sapiens
<400> 190
Ala Ala Ser Pro Leu Leu Val Leu Phe Thr Leu Asn Gly Thr Ile Thr
Asn Leu Arg Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
<210> 191
<211> 42
<212> PRT
<213> Homo sapiens
<400> 191
Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
Asn Leu Lys Tyr Glu Glu Asp Met His Cys Pro Gly Ser Arg Lys Phe
Asn Thr Thr Glu Arg Val Leu Gln Ser Leu
        35
<210> 192
```

<213> Homo sapiens

<400> 192

Ala Ala Ser His Leu Leu Ile Leu Phe Thr Leu Asn Phe Thr Ile Thr 1  $\phantom{\bigg|}$   $\phantom{\bigg|}$  5  $\phantom{\bigg|}$  10  $\phantom{\bigg|}$  15

Asn Leu Arg Tyr Glu Glu Asn Met Trp Pro Gly Ser Arg Lys Phe Asn  $20 \hspace{1cm} 25 \hspace{1cm} 30 \hspace{1cm}$ 

Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 193

<211> 42

<212> PRT

<213> Homo sapiens

<400> 193

Thr Gly Val Val Ser Glu Glu Pro Phe Thr Leu Asn Phe Thr Ile Asn 1  $\phantom{\bigg|}$ 

Asn Leu Arg Tyr Met Ala Asp Met Gly Gln Pro Gly Ser Leu Lys Phe 20 25 30

Asn Ile Thr Asp Asn Val Met Lys His Leu 35 40

<210> 194

<211> 42

<212> PRT

<213> Homo sapiens

<400> 194

Ala Met Gly Tyr His Leu Lys Thr Leu Thr Leu Asn Phe Thr Ile Ser 1  $\phantom{\bigg|}$  5  $\phantom{\bigg|}$  10  $\phantom{\bigg|}$  15

Asn Leu Gln Tyr Ser Pro Asp Met Gly Lys Gly Ser Ala Thr Phe Asn  $20 \hspace{1cm} 25 \hspace{1cm} 30$ 

Ser Thr Glu Gly Val Leu Gln His Leu Leu 35 40

```
<211> 23
<212> PRT
<213> Homo sapiens
<400> 195
Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu Tyr Ser Gly 1 \phantom{\bigg|} 10 \phantom{\bigg|} 15
Cys Arg Leu Ala Ser Leu Arg
             20
<210> 196
<211> 23
<212> PRT
 <213> Homo sapiens
<400> 196
Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly
Cys Arg Leu Thr Leu Leu Arg
<210> 197
<211> 23
<212> PRT
<213> Homo sapiens
<400> 197
 Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
 Cys Arg Leu Thr Leu Leu Arg
            20
<210> 198
<211> 23
```

```
<213> Homo sapiens
<400> 198
Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly
Cys Arg Leu Thr Leu Leu Arg
<210> 199
<211> 23
<212> PRT
<213> Homo sapiens
<400> 199
Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Ser
Cys Arg Leu Thr Leu Leu Arg
         20
<210> 200
<211> 23
<212> PRT
<213> Homo sapiens
<400> 200
Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
Cys Arg Leu Thr Ser Leu Arg
           20
<210> 201
<211> 23
<212> PRT
<213> Homo sapiens
<400> 201
```

```
Leu Gly Pro Ile Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
Cys Arg Leu Thr Ser Leu Arg
<210> 202
<211> 23
<212> PRT
<213> Homo sapiens
<400> 202
Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly
Cys Arg Leu Thr Leu Leu Arg
          20
<210> 203
<211> 23
<212> PRT
<213> Homo sapiens
<400> 203
Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly 1 \phantom{\bigg|} 5 \phantom{\bigg|} 10 \phantom{\bigg|} 15
Cys Arg Leu Thr Leu Leu Arg
<210> 204
<211> 23
<212> PRT
<213> Homo sapiens
<400> 204
Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
                 5
                                       10
Cys Arg Leu Thr Ser Leu Arg
```

```
20
<210> 205
<211> 23
<212> PRT
<213> Homo sapiens
<400> 205
Leu Gly Pro Leu Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly
Cys Arg Leu Ile Ser Leu Arg
          20
<210> 206
<211> 23
<212> PRT
<213> Homo sapiens
<400> 206
Leu Gly Pro Leu Phe Lys Asn Ser Ser Val Asp Pro Leu Tyr Ser Gly
Cys Arg Leu Thr Ser Leu Arg
           20
<210> 207
<211> 23
<212> PRT
<213> Homo sapiens
<400> 207
Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly
Cys Arg Leu Thr Ser Leu Arg
```

<210> 208

20

```
<211> 23
<212> PRT
<213> Homo sapiens
<400> 208
Leu Ser Pro Ile Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
                                  10
Cys Arg Leu Thr Leu Leu Arg
          20
<210> 209
<211> 23
<212> PRT
<213> Homo sapiens
<400> 209
Leu Ser Pro Leu Phe Gln Arg Ser Ser Leu Gly Ala Arg Tyr Thr Gly
Cys Arg Val Ile Ala Leu Arg
           20
<210> 210
<211> 23
<212> PRT
<213> Homo sapiens
<400> 210
Leu Arg Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly
Cys Arg Leu Thr Leu Leu Arg
            20
<210> 211
<211> 23
<212> PRT
```

```
<213> Homo sapiens
<400> 211
Leu Arg Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
Ser Arg Leu Thr Leu Leu Arg
           20
<210> 212
<211> 23
<212> PRT
<213> Homo sapiens
<400> 212
Leu Arg Pro Leu Phe Lys Asn Thr Ser Ile Gly Pro Leu Tyr Ser Ser
Cys Arg Leu Thr Leu Leu Arg
           20
<210> 213
<211> 23
<212> PRT
<213> Homo sapiens
 <400> 213
 Leu Arg Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly
 Cys Arg Leu Thr Leu Leu Arg
           20
 <210> 214
 <211> 23
 <212> PRT
 <213> Homo sapiens
 <400> 214
```

```
Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly
Cys Arg Leu Thr Leu Leu Arg
<210> 215
<211> 23
<212> PRT
<213> Homo sapiens
<400> 215
Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
                                  10
Cys Arg Leu Thr Leu Leu Arg
          20
<210> 216
<211> 23
<212> PRT
<213> Homo sapiens
<400> 216
Leu Arg Ser Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly
                                   10
Cys Arg Leu Thr Leu Leu Arg
           20
<210> 217
<211> 23
<212> PRT
<213> Homo sapiens
<400> 217
Leu Arg Ser Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly
                5
Cys Arg Leu Thr Ser Leu Arg
```

```
20
<210> 218
<211> 23
<212> PRT
<213> Homo sapiens
<400> 218
Leu Thr Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
Cys Arg Leu Thr Leu Leu Arg
           20
<210> 219
<211> 23
<212> PRT
<213> Homo sapiens
<400> 219
Leu Thr Pro Leu Phe Arg Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly
Cys Arg Leu Thr Leu Leu Arg
          20
<210> 220
<211> 23
<212> PRT
<213> Homo sapiens
<400> 220
Leu Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly
Cys Arg Leu Thr Leu Leu Arg
           20
```

```
<211> 22
<212> PRT
<213> Homo sapiens
<400> 221
Arg Pro Leu Phe Gln Lys Ser Ser Met Gly Pro Phe Tyr Leu Gly Cys
Gln Leu Ile Ser Leu Arg
           20
<210> 222
<211> 58
<212> PRT
<213> Homo sapiens
<400> 222
Pro Glu Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His
Arg Pro Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp 20 25 30
Glu Leu Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr
Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
<210> 223
<211> 58
<212> PRT
<213> Homo sapiens
<400> 223
Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His
Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp
            20
```

Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr

<212> PRT

40 45 35 Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly <210> 224 <211> 58 <212> PRT <213> Homo sapiens <400> 224 Pro Lys Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His 1  $\,$  10  $\,$ Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly 50 <210> 225 <211> 58 <212> PRT <213> Homo sapiens <400> 225 Pro Glu Lys Asp Gly Thr Ala Thr Gly Val Asp Ala Ile Cys Thr His His Pro Asp Pro Lys Ser Pro Arg Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly His Tyr Ala Leu Asp Asn Asp Ser Leu Phe Val Asn Gly 50 <210> 226 <211> 58

<213> Homo sapiens

<400> 226

Pro Glu Lys Asp Gly Glu Ala Thr Gly Val Asp Ala Ile Cys Thr His 1 10 15

Arg Pro Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Gln Leu Tyr Leu 20 25 30

Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly 50

<210> 227

<211> 58

<212> PRT

<213> Homo sapiens

<400> 227

His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser 35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly

<210> 228

<211> 58

<212> PRT

<213> Homo sapiens

<400> 228

Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr  $1 \ \, 10 \ \,$ 

His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Cys

```
Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser
                           4.0
Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly
<210> 229
<211> 58
<212> PRT
<213> Homo sapiens
<400> 229
Pro Glu Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Ala Cys Thr Tyr
Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp
Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr
Leu Asp Arg Val Ser Leu Tyr Val Asn Gly
<210> 230
<211> 58
<212> PRT
<213> Homo sapiens
<400> 230
Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr
Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp
Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr
Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly
                        5.5
<210> 231
<211> 58
```

```
<212> PRT
<213> Homo sapiens
<400> 231
Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr 1 \phantom{\bigg|} 5 \phantom{\bigg|} 10 \phantom{\bigg|} 15
Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp
Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr
Gln Asp Arg Asp Ser Leu Tyr Asn Val Gly
<210> 232
<211> 58
<212> PRT
<213> Homo sapiens
<400> 232
Pro Glu Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Val Cys Thr His
Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp 20 25 30
Lys Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr
Leu Asp Arg His Ser Leu Tyr Val Asn Gly
<210> 233
<211> 58
<212> PRT
<213> Homo sapiens
<400> 233
Pro Glu Lys Asp Gly Val Ala Thr Arg Val Asp Ala Ile Cys Thr His
```

Arg Pro Asp Pro Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp

Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly

<210> 234

<211> 58

<212> PRT

<213> Homo sapiens

<400> 234

His Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Arg Leu Tyr Trp  $20 \\ 25 \\ 30$ 

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr  $35 \hspace{1cm} 40 \hspace{1cm} 45$ 

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly 50

<210> 235

<211> 58

<212> PRT

<213> Homo sapiens

<400> 235

Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr  $35 \hspace{1cm} 40 \hspace{1cm} 45$ 

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly 50

<210> 236

```
<211> 58
<212> PRT
<213> Homo sapiens
<400> 236
Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His
Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp
            20
Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr
Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
<210> 237
<211> 58
<212> PRT
<213> Homo sapiens
<400> 237
Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His
Arg Val Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp 20 25 30
Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr
Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
    50
                        5.5
<210> 238
<211> 58
<212> PRT
<213> Homo sapiens
<400> 238
```

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His

10 His Leu Asn Pro Gln Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu Ser Gln Met Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly <210> 239 <211> 58 <212> PRT <213> Homo sapiens <400> 239 Pro Glu Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu Tyr Val Asn Gly <210> 240 <211> 58 <212> PRT <213> Homo sapiens <400> 240 Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly 50 50

<400> 243

```
<210> 241
<211> 58
<212> PRT
<213> Homo sapiens
<400> 241
Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser His
Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp
Glu Leu Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr
Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
<210> 242
<211> 58
<212> PRT
<213> Homo sapiens
<400> 242
Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu
Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp
Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr
Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly
<210> 243
<211> 58
<212> PRT
<213> Homo sapiens
```

Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu 1 5 10 15

Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp
20 25 30

Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly 50

<210> 244

<211> 58

<212> PRT

<213> Homo sapiens

<400> 244

Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His 1  $\phantom{-}$  10  $\phantom{-}$  15

Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly 50

<210> 245

<211> 58

<212> PRT

<213> Homo sapiens

<400> 245

Pro Glu Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His 1  $\phantom{-}5\phantom{+}10\phantom{+}15\phantom{+}$ 

Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly

<213> Homo sapiens

```
50
                       55
<210> 246
<211> 58
<212> PRT
<213> Homo sapiens
<400> 246
Pro Glu Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His
Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp
Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr
Leu Asp Arg Asp Ser Leu Tyr Val Asp Gly 50
<210> 247
<211> 58
<212> PRT
<213> Homo sapiens
<400> 247
Pro Glu Lys Asp Lys Ala Ala Thr Arg Val Asp Ala Ile Cys Thr His
1 5 10 15
His Pro Asp Pro Gln Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp
20 25 30
Glu Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr
Leu Asp Arg Asp Ser Leu Tyr Val Asp Gly
50 55
    50
<210> 248
<211> 58
<212> PRT
```

```
<400> 248
Ser Val Lys Asn Gly Ala Glu Thr Arg Val Asp Leu Leu Cys Thr Tyr
Leu Gln Pro Leu Ser Gly Pro Gly Leu Pro Ile Lys Gln Val Phe His 20 25 30
Glu Leu Ser Gln Gln Thr His Gly Ile Thr Arg Leu Gly Pro Tyr Ser
Leu Asp Lys Asp Ser Leu Tyr Leu Asn Gly
<210> 249
<211> 58
<212> PRT
<213> Homo sapiens
<400> 249
Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Thr Thr Cys Thr Tyr
His Pro Asp Pro Val Gly Pro Gly Leu Asp Ile Gln Gln Leu Tyr Trp
Glu Leu Ser Gln Leu Thr His Gly Val Thr Gln Leu Gly Phe Tyr Val
Leu Asp Arg Asp Ser Leu Phe Ile Asn Gly
    50
<210> 250
<211> 12
<212> PRT
<213> Homo sapiens
<400> 250
Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr
<210> 251
<211> 12
```

```
<212> PRT
 <213> Homo sapiens
 <400> 251
 Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Ile
 <210> 252
 <211> 12
 <212> PRT
 <213> Homo sapiens
 <400> 252
 Phe Thr His Arg Thr Ser Val Pro Thr Ser Ser Thr
<210> 253
<211> 12
 <212> PRT
 <213> Homo sapiens
 <400> 253
  Phe Thr His Arg Thr Ser Val Pro Thr Thr Ser Thr
 <210> 254
 <211> 12
 <212> PRT
 <213> Homo sapiens
 <400> 254
  Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ser
                5
                                 10
  <210> 255
```

```
<211> 12
<212> PRT
<213> Homo sapiens
<400> 255
Phe Thr His Arg Ser Ser Val Ser Thr Thr Ser Thr 1 \phantom{-}5\phantom{+}
<210> 256
<211> 12
<212> PRT
<213> Homo sapiens
<400> 256
Phe Thr His Arg Ser Ser Val Ala Pro Thr Ser Thr
<210> 257
<211> 12
<212> PRT
<213> Homo sapiens
<400> 257
Phe Thr His Arg Ser Ser Gly Leu Thr Thr Ser Thr
<210> 258
<211> 12
<212> PRT
<213> Homo sapiens
<400> 258
Phe Thr His Arg Ser Phe Gly Leu Thr Thr Ser Thr 1 \phantom{-}5\phantom{+}
```

```
<210> 259
<211> 12
<212> PRT
<213> Homo sapiens
 <400> 259
 Phe Thr His Arg Ser Ser Phe Leu Thr Thr Ser Thr
 <210> 260
 <211> 12
 <212> PRT
<213> Homo sapiens
<400> 260
 Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr
                5
<210> 261
 <211> 12
 <212> PRT
 <213> Homo sapiens
 <400> 261
 Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile
 <210> 262
 <211> 12
 <212> PRT
 <213> Homo sapiens
 <400> 262
 Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr
                5
```

```
<210> 263
<211> 12
<212> PRT
<213> Homo sapiens
<400> 263
Phe Thr His Gln Thr Ser Ala Pro Asn Thr Ser Thr
<210> 264
<211> 12
<212> PRT
<213> Homo sapiens
<400> 264
Phe Thr His Gln Thr Phe Ala Pro Asn Thr Ser Thr
<210> 265
<211> 12
<212> PRT
<213> Homo sapiens
<400> 265
Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr 1 \phantom{-}5\phantom{+}
<210> 266
<211> 12
<212> PRT
<213> Homo sapiens
<400> 266
 Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr
```

<400> 270

```
5
                                 10
<210> 267
<211> 12
<212> PRT
<213> Homo sapiens
<400> 267
Phe Thr His Trp Ile Pro Val Pro Thr Ser Ser Thr
<210> 268
<211> 12
<212> PRT
<213> Homo sapiens
<400> 268
Phe Thr His Trp Ser Pro Ile Pro Thr Thr Ser Thr
              5
<210> 269
<211> 12
<212> PRT
<213> Homo sapiens
<400> 269
Phe Thr His Trp Ser Ser Gly Leu Thr Thr Ser Thr
<210> 270
<211> 12
<212> PRT
<213> Homo sapiens
```

```
Phe His Pro Arg Ser Ser Val Pro Thr Thr Ser Thr
   5
<210> 271
<211> 12
<212> PRT
<213> Homo sapiens
<400> 271
Phe Asn Pro Arg Ser Ser Val Pro Thr Thr Ser Thr
<210> 272
<211> 12
<212> PRT
<213> Homo sapiens
<400> 272
Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr
<210> 273
<211> 12
<212> PRT
<213> Homo sapiens
<400> 273
Phe Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Ile
                                  10
              - 5
<210> 274
<211> 12
<212> PRT
<213> Homo sapiens
<400> 274
```

```
Phe Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Thr
<210> 275
<211> 12
<212> PRT
<213> Homo sapiens
<400> 275
Phe Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Val
<210> 276
<211> 12
<212> PRT
<213> Homo sapiens
<400> 276
Tyr Asn Glu Pro Gly Leu Asp Glu Pro Pro Thr Thr
<210> 277
<211> 12
<212> PRT
<213> Homo sapiens
<400> 277
Tyr Ala Pro Gln Asn Leu Ser Ile Arg Gly Glu Tyr
<210> 278
<211> 21
<212> PRT
<213> Homo sapiens
```

```
<400> 278
Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser
Ser Pro Ser Pro Thr
<210> 279
<211> 23
<212> PRT
<213> Homo sapiens
<400> 279
Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser
                                   10
Leu Ser Ser Pro Thr Ile Met
           20
<210> 280
<211> 21
<212> PRT
<213> Homo sapiens
<400> 280
Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Phe Ser
Leu Pro Ser Pro Ala
            2.0
<210> 281
<211> 20
<212> PRT
<213> Homo sapiens
<400> 281
Pro Gly Thr Ser Thr Val Asp Leu Gly Ser Gly Thr Pro Ser Ser Leu
                                   10
```

```
Pro Ser Pro Thr
        20
<210> 282
<211> 20
<212> PRT
<213> Homo sapiens
<400> 282
Pro Gly Thr Ser Thr Val Asp Leu Gly Ser Gly Thr Pro Ser Leu Pro
Ser Ser Pro Thr
           20
<210> 283
<211> 21
<212> PRT
<213> Homo sapiens
<400> 283
Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser
                                  10
Leu Pro Ser Pro Thr
           20
<210> 284
<211> 21
<212> PRT
<213> Homo sapiens
<400> 284
Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Val Ser
                                  10
Lys Pro Gly Pro Ser
<210> 285
```

```
COOKETIE COETCL
```

```
<211> 21
<212> PRT
<213> Homo sapiens
<400> 285
Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Pro
                                  10
Val Pro Ser Pro Thr
           20
<210> 286
<211> 21
<212> PRT
<213> Homo sapiens
<400> 286
Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser
Phe Pro Gly His Thr
          20
<210> 287
<211> 21
<212> PRT
<213> Homo sapiens
<400> 287
Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser
Leu Pro Gly His Thr
           20
<210> 288
<211> 21
<212> PRT
```

```
<213> Homo sapiens
<400> 288
Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Pro
Leu Pro Gly His Thr
           20
<210> 289
<211> 21
<212> PRT
<213> Homo sapiens
<400> 289
Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser
Leu Ser Gly Pro Thr
          20
<210> 290
<211> 21
<212> PRT
<213> Homo sapiens
<400> 290
Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser
                                  10
Leu Pro Gly His Thr
           20
<210> 291
<211> 21
<212> PRT
<213> Homo sapiens
<400> 291
```

```
Pro Gly Thr Ser Ala Val His Leu Glu Thr Thr Gly Thr Pro Ser Ser
Phe Pro Gly His Thr
           20
<210> 292
<211> 21
<212> PRT
<213> Homo sapiens
<400> 292
Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser
                                  10
Leu Pro Arg Pro Ile
           20
<210> 293
<211> 21
<212> PRT
<213> Homo sapiens
<400> 293
Pro Gly Thr Ser Ile Val Asn Leu Gly Thr Ser Gly Ile Pro Pro Ser
                                  10
Leu Pro Glu Thr Thr
            20
<210> 294
<211> 21
<212> PRT
<213> Homo sapiens
<400> 294
Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu Thr Pro Ser Ser
            5
                                 10
Leu Pro Gly Pro Thr
```

<212> PRT

```
20
<210> 295
<211> 21
<212> PRT
<213> Homo sapiens
<400> 295
Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Val Ser
Lys Pro Gly Pro Ser
           20
<210> 296
<211> 21
<212> PRT
<213> Homo sapiens
<400> 296
Pro Gly Thr Pro Thr Val Tyr Leu Gly Ala Ser Lys Thr Pro Ala Ser
Ile Phe Gly Pro Ser
            20
<210> 297
<211> 16
<212> PRT
<213> Homo sapiens
<400> 297
Pro Lys Pro Ala Thr Thr Phe Leu Pro Pro Leu Ser Glu Ala Thr Thr
                                   10
<210> 298
<211> 21
```

<213> Homo sapiens

<400> 298

Thr Ser Ser Glu Tyr 20

<210> 299

<211> 1794

<212> PRT

<213> Homo sapiens

<400> 299

Ile Arg Pro Val Lys Gly Pro Gln Thr Ser Thr Ser Pro Ala Ser Pro 20 25 30

Lys Gly Leu His Thr Gly Gly Thr Lys Arg Met Glu Thr Thr Thr Thr 35  $\phantom{-}40\phantom{+}45\phantom{+}$ 

Ala Leu Lys Thr Thr Thr Thr Ala Leu Lys Thr Thr Ser Arg Ala Thr 50 60

Leu Thr Thr Ser Val Tyr Thr Pro Thr Leu Gly Thr Leu Thr Pro Leu 65 70 80

Asn Ala Ser Arg Gln Met Ala Ser Thr Ile Leu Thr Glu Met Met Ile 85 90 95

Thr Thr Pro Tyr Val Phe Pro Asp Val Pro Glu Thr Thr Ser Ser Leu 100 105 110

Ala Thr Ser Leu Gly Ala Glu Thr Ser Thr Ala Leu Pro Arg Thr Thr 115 120 125

Pro Ser Val Leu Asn Arg Glu Ser Glu Thr Thr Ala Ser Leu Val Ser 130 135 140

Arg Ser Gly Ala Glu Arg Ser Pro Val Ile Gln Thr Leu Asp Val Ser 145  $\phantom{00}$  150  $\phantom{00}$  155  $\phantom{00}$  160

Ser Ser Glu Pro Asp Thr Thr Ala Ser Trp Val Ile His Pro Ala Glu 165 170 175

Thr Ile Pro Thr Val Ser Lys Thr Thr Pro Asn Phe Phe His Ser Glu 180 185 190

435

450

Leu Asp Thr Val Ser Ser Thr Ala Thr Ser His Gly Ala Asp Val Ser 200 195 Ser Ala Ile Pro Thr Asn Ile Ser Pro Ser Glu Leu Asp Ala Leu Thr 215 Pro Leu Val Thr Ile Ser Gly Thr Asp Thr Ser Thr Thr Phe Pro Thr 235 Leu Thr Lys Ser Pro His Glu Thr Glu Thr Arg Thr Thr Trp Leu Thr 250 His Pro Ala Glu Thr Ser Ser Thr Ile Pro Arg Thr Ile Pro Asn Phe Ser His His Glu Ser Asp Ala Thr Pro Ser Ile Ala Thr Ser Pro Gly 280 Ala Glu Thr Ser Ser Ala Ile Pro Ile Met Thr Val Ser Pro Gly Ala 295 Glu Asp Leu Val Thr Ser Gln Val Thr Ser Ser Gly Thr Asp Arg Asn 315 Met Thr Ile Pro Thr Leu Thr Leu Ser Pro Gly Glu Pro Lys Thr Ile Ala Ser Leu Val Thr His Pro Glu Ala Gln Thr Ser Ser Ala Ile Pro 345 Thr Ser Thr Ile Ser Pro Ala Val Ser Arg Leu Val Thr Ser Met Val 355 Thr Ser Leu Ala Ala Lys Thr Ser Thr Thr Asn Arg Ala Leu Thr Asn Ser Pro Gly Glu Pro Ala Thr Thr Val Ser Leu Val Thr His Pro Ala 385 Gln Thr Ser Pro Thr Val Pro Trp Thr Thr Ser Ile Phe Phe His Ser Lys Ser Asp Thr Thr Pro Ser Met Thr Thr Ser His Gly Ala Glu Ser 420 425 Ser Ser Ala Val Pro Thr Pro Thr Val Ser Thr Glu Val Pro Gly Val

Pro Ile Leu Thr Leu Ser Pro Gly Glu Pro Glu Thr Thr Pro Ser Met 475 Ala Thr Ser His Gly Glu Glu Ala Ser Ser Ala Ile Pro Thr Pro Thr 490

440 Val Thr Pro Leu Val Thr Ser Ser Arg Ala Val Ile Ser Thr Thr Ile

455

Val Ser Pro Gly Val Pro Gly Val Val Thr Ser Leu Val Thr Ser Ser

500 505 510 Arg Ala Val Thr Ser Thr Thr Ile Pro Ile Leu Thr Phe Ser Leu Gly Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Thr Glu Ala 535 Gly Ser Ala Val Pro Thr Val Leu Pro Glu Val Pro Gly Met Val Thr 550 555 Ser Leu Val Ala Ser Ser Arg Ala Val Thr Ser Thr Thr Leu Pro Thr Leu Thr Leu Ser Pro Gly Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Ala Glu Ala Ser Ser Thr Val Pro Thr Val Ser Pro Glu Val Pro Gly Val Val Thr Ser Leu Val Thr Ser Ser Ser Gly Val Asn 615 Ser Thr Ser Ile Pro Thr Leu Ile Leu Ser Pro Gly Glu Leu Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Ala Glu Ala Ser Ser Ala Val 650 Pro Thr Pro Thr Val Ser Pro Gly Val Ser Gly Val Val Thr Pro Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr Thr Ile Pro Ile Leu Thr Leu Ser Ser Ser Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Val Glu Ala Ser Ser Ala Val Leu Thr Val Ser Pro Glu Val Pro Gly Met Val Thr Ser Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr Thr Ile Pro Thr Leu Thr Ile Ser Ser Asp Glu Pro Glu Thr Thr Thr Ser Leu Val Thr His Ser Glu Ala Lys Met Ile Ser Ala Ile Pro Thr Leu Ala Val Ser Pro Thr Val Gln Gly Leu Val Thr Ser Leu Val Thr Ser Ser Gly Ser Glu Thr Ser Ala Phe Ser Asn Leu Thr Val Ala Ser 795 785 Ser Gln Pro Glu Thr Ile Asp Ser Trp Val Ala His Pro Gly Thr Glu 810 805

- Ala Ser Ser Val Val Pro Thr Leu Thr Val Ser Thr Gly Glu Pro Phe  $820 \hspace{1.5cm} 825 \hspace{1.5cm} 830$
- Pro Arg Thr Thr Ser Arg Phe Ser His Ser Glu Leu Asp Thr Met Pro 850 855
- Ser Thr Val Thr Ser Pro Glu Ala Glu Ser Ser Ser Ala Ile Ser Thr 865 870 875 880
- Thr Ile Ser Pro Gly Ile Pro Gly Val Leu Thr Ser Leu Val Thr Ser
- Ser Gly Arg Asp Ile Ser Ala Thr Phe Pro Thr Val Pro Glu Ser Pro 900 905 910
- His Glu Ser Glu Ala Thr Ala Ser Trp Val Thr His Pro Ala Val Thr 915 920 925
- Ser Thr Thr Val Pro Arg Thr Thr Pro Asn Tyr Ser His Ser Glu Pro
- Asp Thr Thr Pro Ser Ile Ala Thr Ser Pro Gly Ala Glu Ala Thr Ser 945 950 950 950 960
- Asp Phe Pro Thr Ile Thr Val Ser Pro Asp Val Pro Asp Met Val Thr 965 970 975
- Ser Gln Val Thr Ser Ser Gly Thr Asp Thr Ser Ile Thr Ile Pro Thr 980 985 990
- Leu Thr Leu Ser Ser Gly Glu Pro Glu Thr Thr Thr Ser Phe Ile Thr 995  $\phantom{\bigg|}1000\phantom{\bigg|}$
- Tyr Ser Glu Thr His Thr Ser Ser Ala Ile Pro Thr Leu Pro Val 1010 1015 1020
- Ser Pro Gly Ala Ser Lys Met Leu Thr Ser Leu Val Ile Ser Ser 1025 1030 1035
- Gly Thr Asp Ser Thr Thr Thr Phe Pro Thr Leu Thr Glu Thr Pro 1040  $\phantom{0}$  1045  $\phantom{0}$  1050
- Tyr Glu Pro Glu Thr Thr Ala Ile Gln Leu Ile His Pro Ala Glu 1055 1060 1065
- Thr Asn Thr Met Val Pro Arg Thr Thr Pro Lys Phe Ser His Ser 1070 1080
- Lys Ser Asp Thr Thr Leu Pro Val Ala Ile Thr Ser Pro Gly Pro 1085
- Glu Ala Ser Ser Ala Val Ser Thr Thr Thr Ile Ser Pro Asp Met 1100 1105 1110
- Ser Asp Leu Val Thr Ser Leu Val Pro Ser Ser Gly Thr Asp Thr 1115 1120 1125

Ser	Thr 1130	Thr	Phe	Pro	Thr	Leu 1135	Ser	Glu	Thr	Pro	Tyr 1140	Glu	Pro	Glu
Thr	Thr 1145	Ala	Thr	Trp	Leu	Thr 1150	His	Pro	Ala	Glu	Thr 1155	Ser	Thr	Thr
Val	Ser 1160	Gly	Thr	Ile	Pro	Asn 1165	Phe	Ser	His	Arg	Gly 1170	Ser	Asp	Thr
Ala	Pro 1175	Ser	Met	Val	Thr	Ser 1180	Pro	Gly	Val	Asp	Thr 1185	Arg	Ser	Gly
Val	Pro 1190	Thr	Thr	Thr	Ile	Pro 1195	Pro	Ser	Ile	Pro	Gly 1200	Va1	Val	Thr
Ser	Gln 1205	Val	Thr	Ser	Ser	Ala 1210	Thr	Asp	Thr	Ser	Thr 1215	Ala	Ile	Pro
Thr	Leu 1220	Thr	Pro	Ser	Pro	Gly 1225	Glu	Pro	Glu	Thr	Thr 1230	Ala	Ser	Ser
Ala	Thr 1235	His	Pro	Gly	Thr	Gln 1240	Thr	Gly	Phe	Thr	Val 1245	Pro	Ile	Arg
Thr	Val 1250	Pro	Ser	Ser	Glu	Pro 1255	Asp	Thr	Met	Ala	Ser 1260	Trp	Val	Thr
His	Pro 1265		Gln	Thr	Ser	Thr 1270		Val	Ser	Arg	Thr 1275	Thr	Ser	Ser
Phe	Ser 1280		Ser	Ser	Pro	Asp 1285	Ala	Thr	Pro	Val	Met 1290		Thr	Ser
Pro	Arg 1295		Glu	Ala	Ser	Ser 1300	Ala	Val	Leu	Thr	Thr 1305	Ile	Ser	Pro
Gly	Ala 1310		Glu	Met	Val	Thr 1315	Ser	Gln	Ile	Thr	Ser 1320	Ser	Gly	Ala
Ala	Thr 1325		Thr	Thr	Val	Pro 1330	Thr	Leu	Thr	His	Ser 1335	Pro	Gly	Met
Pro	Glu 1340		Thr	Ala	Leu	Leu 1345	Ser	Thr	His	Pro	Arg 1350		Glu	Thr
Ser	Lys 1355		Phe	Pro	Ala	Ser 1360		Val	Phe	Pro	Gln 1365		Ser	Glu
Thr	Thr 1370		Ser	Leu	Thr	Ile 1375	Arg	Pro	Gly	Ala	Glu 1380	Thr	Ser	Thr
Ala	Leu 1385		Thr	Gln	Thr	Thr 1390		Ser	Leu	Phe	Thr 1395		Leu	Val
Thr	Gly 1400		Ser	Arg	Val	Asp 1405		Ser	Pro	Thr	Ala 1410		Pro	Gly
Val	Ser	Ala	Lys	Thr	Ala	Pro	Leu	Ser	Thr	His	Pro	Gly	Thr	Glu

	1415					1420					1425			
Thr	Ser 1430	Thr	Met	Ile	Pro	Thr 1435	Ser	Thr	Leu	Ser	Leu 1440	Gly	Leu	Leu
Glu	Thr 1445	Thr	Gly	Leu	Leu	Ala 1450	Thr	Ser	Ser	Ser	Ala 1455	Glu	Thr	Ser
Thr	Ser 1460	Thr	Leu	Thr	Leu	Thr 1465	Va1	Ser	Pro	A1a	Val 1470	Ser	Gly	Leu
Ser	Ser 1475	Ala	Ser	Ile	Thr	Thr 1480	Asp	Lys	Pro	Gln	Thr 1485	Val	Thr	Ser
Trp	Asn 1490	Thr	G1u	Thr	Ser	Pro 1495	Ser	Val	Thr	Ser	Val 1500	Gly	Pro	Pro
Glu	Phe 1505	Ser	Arg	Thr	Val	Thr 1510	Gly	Thr	Thr	Met	Thr 1515	Leu	Ile	Pro
Ser	Glu 1520	Met	Pro	Thr	Pro	Pro 1525	Lys	Thr	Ser	His	Gly 1530	Glu	Gly	Val
Ser	Pro 1535	Thr	Thr	Ile	Leu	Arg 1540	Thr	Thr	Met	Val	Glu 1545	Ala	Thr	Asn
Leu	Ala 1550	Thr	Thr	Gly	Ser	Ser 1555	Pro	Thr	Val	Ala	Lys 1560	Thr	Thr	Thr
Thr	Phe 1565	Asn	Thr	Leu	Ala	Gly 1570		Leu	Phe	Thr	Pro 1575	Leu	Thr	Thr
Pro	Gly 1580	Met	Ser	Thr	Leu	Ala 1585	Ser	Glu	Ser	Va1	Thr 1590	Ser	Arg	Thr
Ser	Tyr 1595	Asn	His	Arg	Ser	Trp 1600		Ser	Thr	Thr	Ser 1605	Ser	Tyr	Asn
Arg	Arg 1610	Tyr	Trp	Thr	Pro	Ala 1615	Thr	Ser	Thr	Pro	Val 1620	Thr	Ser	Thr
Phe	Ser 1625	Pro	Gly	Ile	Ser	Thr 1630		Ser	Ile	Pro	Ser 1635	Ser	Thr	Ala
Ala	Thr 1640	Val	Pro	Phe	Met	Val 1645	Pro	Phe	Thr	Leu	Asn 1650	Phe	Thr	Ile
Thr	Asn 1655	Leu	Gln	Tyr	Glu	Glu 1660	Asp	Met	Arg	His	Pro 1665	Gly	Ser	Arg
Lys	Phe 1670		Ala	Thr	Glu	Arg 1675	Glu	Leu	Gln	Gly	Leu 1680	Leu	Lys	Pro
Leu	Phe 1685	Arg	Asn	Ser	Ser	Leu 1690		Tyr	Leu	Tyr	Ser 1695	Gly	Cys	Arg
Leu	Ala 1700		Leu	Arg	Pro	Glu 1705		Asp	Ser	Ser	Ala 1710	Met	Ala	Val

- Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu Asp Leu Gly Leu 1715 1720 1725
- Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn Leu Thr Asn Gly 1730 1740
- Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr 1745 1750 1755
- Val Asn Gly Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr 1760 1765 1770
- Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser 1775 1780
- Ser Ser Pro Ser Pro Thr 1790
- <210> 300
- <211> 284
- <212> PRT
- <213> Homo sapiens
- <400> 300
- Ile Thr Leu Leu Arg Asp Ile Gln Asp Lys Val Thr Thr Leu Tyr Lys 1  $\phantom{-}5\phantom{+}10\phantom{+}15\phantom{+}$
- Gly Ser Gln Leu His Asp Thr Phe Arg Phe Cys Leu Val Thr Asn Leu  $20 \hspace{1cm} 25 \hspace{1cm} 30 \hspace{1cm}$
- Thr Met Asp Ser Val Leu Val Thr Val Lys Ala Leu Phe Ser Ser Asn 35 40 45
- Leu Asp Pro Ser Leu Val Glu Gln Val Phe Leu Asp Lys Thr Leu Asn 50 60
- Ala Ser Phe His Trp Leu Gly Ser Thr Tyr Gln Leu Val Asp Ile His 65 70 75 80
- Val Thr Glu Met Glu Ser Ser Val Tyr Gln Pro Thr Ser Ser Ser Ser 90 95
- Gln Asp Lys Ala Gln Pro Gly Thr Thr Asn Tyr Gln Arg Asn Lys Arg 115 120 125
- Asn Ile Glu Asp Ala Leu Asn Gln Leu Phe Arg Asn Ser Ser Ile Lys 130 135 140
- Ser Tyr Phe Ser Asp Cys Gln Val Ser Thr Phe Arg Ser Val Pro Asn 145 150 150 155 160

tagetgetet etgtecagte e

```
Arg His His Thr Gly Val Asp Ser Leu Cys Asn Phe Ser Pro Leu Ala
                165
Arg Arg Val Asp Arg Val Ala Ile Tyr Glu Glu Phe Leu Arg Met Thr
Arg Asn Gly Thr Gln Leu Gln Asn Phe Thr Leu Asp Arg Ser Ser Val
Leu Val Asp Gly Tyr Ser Pro Asn Arg Asn Glu Pro Leu Thr Gly Asn
Ser Asp Leu Pro Phe Trp Ala Val Ile Leu Ile Gly Leu Ala Gly Leu
Leu Gly Leu Ile Thr Cys Leu Ile Cys Gly Val Leu Val Thr Thr Arg
                245
Arg Arg Lys Lys Glu Gly Glu Tyr Asn Val Gln Gln Gln Cys Pro Gly
Tyr Tyr Gln Ser His Leu Asp Leu Glu Asp Leu Gln
<210> 301
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic primer
<400> 301
gtctctatgt caatggtttc accc
                                                                      24
<210> 302
<211> 21
<212> DNA
<213> Artificial Sequence
<223> Synthetic primer
<400> 302
```

```
<210> 303
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic primer
<400> 303
ggacaaggtc accacactct ac
                                                                    22
<210> 304
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic primer
<400> 304
gcagatecte caggtetagg tgtg
                                                                    24
<210> 305
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic primer
<400> 305
gtctctatgt caatggtttc accc
                                                                   24
<210> 306
```

<211> 21 <212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic primer

<400> 306 tagetgetet etgteeagte e

21